AMERICAN VETERINARY REVIEW.

OCTOBER, 1897.

EDITORIAL.

SEROTHERAPY OF TETANUS.

The question of the value of serotherapy in tetanus seems to be somewhat obscure, and the ordinary practitioner is at a loss what to do in reference to that disease. Shall he treat his patient with antitoxin, or shall he not? Will he be justified in having his client incur the heavy expense connected with the purchase? Will the results of the treatment by antitoxin increase the chances of recovery, and many other points remain open for discussion. If we are to believe the numerous reports of recoveries that are found in veterinary journals, it seems that antitoxin has given to those who used it excellent results; and, again, when we listen to the authoritative statements of others, antitoxin will not cure a case of lockjaw, no matter how slight; it may reduce the severity of the tetanic manifestations and shorten the disease, but that is all.

It is evident that between the two statements, it is difficult to select!

In tracing the subject on the Continent, it is pretty evident that there exists between German and French savants a great difference of opinion—the former insisting that tetanus is *curable*, and the latter that it is only *prevented*, by the use of antitoxin.

The REVIEW has on several occasions called the attention of its readers to the subject, and many of our friends have written upon it in our pages. It is for this reason that we have secured and print elsewhere the record of a series of experi-

ments carried on by Prof. Nocard, with antitoxin of French and German origin, experiments which we have followed attentively and with great interest, and which have established beyond doubt the following facts:

(1) Antitoxin, whether of *French* or *German* origin, remains powerless when injected at the *very* appearance of the first symptom of the disease.

(2) It is powerless also when injected twenty-four hours previous to the appearance of the first symptoms.

(3) If made forty-eight hours previous to the appearance of the first manifestations it may (?) prevent them and save the patient, provided it is injected into *the veins* and in *very large doses.*

(4) If made even in small doses a short time after the injection (*a fortiori* before), it will surely prevent the appearance of all tetanic manifestations.

The conclusions that are thus presented by the celebrated French veterinarian are of great weight, and they evidently will serve to remove from the serotherapy of tetanus the false interpretations which published records of recovery have given to it.

The curative treatment of tetanus is yet to be found.

THE NASHVILLE MEETING OF THE U. S. V. M. A.

In our news department this month will be found a very concise account of the thirty-fourth annual meeting of the National Association, and its perusal cannot fail to leave with the reader the impression that this convention has, upon the whole, surpassed in value, interest, and attendance all previous meetings, and, as the field was new, the wisdom of the Executive Committee in undertaking the experiment of meeting in a Southern state has been fully proven. Very many of the questions which were brought before the meeting, both scientifically and as matters of policy, are of vital importance, both to the profession at large and the welfare of the association. While space will prevent their consideration at this time, the REVIEW will give them very earnest attention during the fall and winter

months, and it invites members to use its pages as freely as they may wish for a similar purpose. There can be no healthier sign of the position which this association holds in the hearts of the great army of veterinarians than the interest taken in the intellectual programme, as night sessions were in order and recesses were unknown. More business was disposed of than ever before, not a member being present with a paper to be read who did not have the opportunity.

THE NEW YORK STATE MEETING.

Certainly no veterinary medical association in America—save the National—has any better opportunity to become a great power for the good of the profession than has the Empire State Society. We print in our news columns a list of the members who attended the very successful meeting held last month in the city of Syracuse, and the addresses given show that they came from a great many sections of that great Commonwealth, which seems destined to become—as the mother of veterinary medicine in this country—the leader in all that is best for the welfare and advancement of veterinarians. The deliberations of this meeting were of a higher order than in any of its former ones, and in matters legislative the members appeared to realize that their expressions would carry dignity and weight, and hence they were guardedly approached, discussed and acted upon. The recommendations of the Legislative Committee's report did not appear to all those present to be the best that the association could evolve, for the good of the greatest number, and, hence, the most important proposition was laid upon the table for one year, when ideas may more thoroughly mature and it may be discussed more intelligently in the light of transpiring events. The creation of a State Veterinary Department, under whatever name the framers of the law may choose to call it, is an event of the profoundest importance to the whole profession of the State, and should be secured only when the representatives of that body are thoroughly united on the character of that service, and until they are all propositions should lie on the table.

We can only suffer in the end where the statute is the production of a class, or the creature of politics. To be lasting, to be an honor to the profession and a blessing to the people, it must be founded upon just principles, with the corner-stone of fairness and freedom from the "spoils" system. The profession is entirely too great to place this important department in the hands of any one who will use it to further any private ends, or use it against any section of the whole body.

The papers read were of unusual interest and the discussions upon them animated, intelligent, and entertaining. The members may well feel proud of their eighth annual meeting, and in deciding to hold their next convention in this city they may be sure that a hearty welcome awaits them by the profession of Greater New York.

In electing Dr. W. L. Baker, of Cortland, to the position of President they have honored a man who has worked assiduously from the inception of the society to bring it to its present estate, and they may be assured that he will take with him into his new office a pride which will redound to their benefit. Dr. Bell, of the REVIEW, became the Vice-President, and the old and tried Secretary, Dr. Claude D. Morris, of Pawling, could not be spared from his onerous duties, and, amid his protests, accepted the office for another term. The Censors elected were Drs. Huff, Kelly, Gill, Law, and Poucher.

THE REVIEW'S ADVICE FOLLOWED.

In an editorial in the July issue of the REVIEW we commented upon the official inquiries by foreign governments for cavalry horses, and the subsequent suggestion by some leading agricultural journals to the Secretary of Agriculture, to appoint a special commissioner to investigate the proper line of breeding of such horses for the information of our American horse-breeders. The REVIEW advised the Department of Agriculture to select a veterinarian as such commissioner, and we are pleased to report that our advice has been followed. Secretary James Wilson has appointed Dr. William A. Bruette, of Chicago, as a commis-

sioner to investigate the demands of the foreign buyers in Chicago, to note carefully the kind of horses purchased, to learn the intended uses of these horses in foreign countries, and to inquire into their breeding. The results of this investigation will be published in a special report.

We are glad the stone has been set rolling and are confident that the usefulness of a veterinary commissioner in such questions will be established once and for all. Dr. Bruette is a bright young veterinarian, an inspector for the Bureau of Animal Industry and the veterinary editor of the *Horseman*. We wish him success in his investigation and shall await his report with interest.

A Library for the New York State Veterinary College.—We learn through the public press that when ex-Governor Roswell P. Flower was driving through the grounds of Cornell University his horse balked in front of the library of the veterinary department and refused to proceed or be comforted. The distinguished occupant of the vehicle alighted to seek the cause of his erratic behavior. Failing in the search, he entered the building in front of which his progression had been so ruthlessly cut short, and meeting there the Director of the Veterinary College, who was contemplating the fifteen volumes contained in the library, appealed to him, as an expert in equine psychology, for an explanation of the singular circumstance. With that acute eye for business which is characteristic of his nationality, the Director suggested that his steed had become appalled at the empty shelves and had refused to further serve his wealthy and generous master unless he contributed something very handsome to the nucleus of the veterinary library, and, in reply to the ex-Governor's interrogation, remarked that $5000 would about fill the bill. Without further ado, the guest drew from his inside pocket his familiar checkbook, filled it out in accordance with the suggestion, and thus has laid the foundation of the greatest library for veterinarians in the world.

ORIGINAL ARTICLES.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

EXTREME LUXATION OF THE PATELLAE IN A FOAL.

BY W. L. WILLIAMS, V.S., NEW YORK STATE VETERINARY COLLEGE, ITHACA, N. Y.

The subject, a filly of trotting breed, foaled May 27, 1897, was of good size and form, was able to stand and suck, and to the attendants appeared well.

The umbilical cord was ligated with a coarse dirty string and the foal, with its dam, kept in a box stall.

It remained apparently well until May 31, when the stifles became much swollen and the foal was unable to stand without assistance.

At this time Dr. Genung was called and found it unable to get up on its hind legs, while the two anterior limbs appeared normal. Each stifle was found inflamed, hot, tender and much swollen. The temperature was somewhat abnormal, though a definite record was not kept; the pulse was accelerated, and the general signs of moderate fever were present. The remnant of the umbilical cord was still present, well dessicated, and the ligature applied at time of birth was *in situ*. No evidence of infection existed at the umbilicus.

A diagnosis of umbilical infection was made and peroxide of hydrogen with salicylate of sodium administered internally and a stimulating liniment applied to the affected joints.

With careful nursing and frequent assistance in reaching the dam's teat the foal continued to thrive generally, though unable to stand erect, but could attain a crouching attitude, erect in front, with complete flexion of the femoro-tibial articulation.

The general line of treatment was continued until July 2d, without material result; the dropsy of the joints had increased, and later with the subsidence of the inflammation had decreased and the synovial capsule had thickened.

At this date Professor Law and the writer found the patient unable to extend the femoro-tibial articulations, nor could they

be fully extended by the application of moderate force, while the two fore limbs tended to bend forward at the carpal joints, rendering difficult the maintenance of even the crouching position mentioned for a sufficient period for the foal to suck. The hydrarthroses had extended far beyond the normal outline of the bursæ, especially outwards, extending over the external surfaces of the lower ends of femora and upper ends of tibiæ, the definite outline of the bursæ being lost externally and inferiorly in the general swelling and thickening of the parts. The enlargements were free from abnormal heat or tenderness.

The patellæ were displaced outwards and backwards and could be readily felt opposite the posterior border of external femoral condyles in immediate proximity to the posterior border of the tibiæ at a distance from the heads of these bones corresponding to the tibial points of attachment of the tibio-patellar ligaments.

The femoral trochleæ appeared to be normal, but the patellæ could not be replaced in them by ordinary manipulation. Bed sores were present on the anterior faces of the fetlock joints.

The attitude of the foal when attempting to stand and the positions of the crural triceps group of muscles, especially the outlines of the rectus femoris and vastus externus and the location of the patella of left leg, are shown in Fig. 1. The muscles of the posterior limbs appeared normal in size and form, but the extreme displacement of the patellæ destroyed completely their power to extend the femoro-tibial articulations and to a great degree the extension of the coxo-femoral and tibio-tarsal joints.

The foal was destroyed on July 3d by bleeding and the autopsy revealed the following abnormalties:

The extensor pedis tendon of the left anterior limb was ruptured between its communication with the lateral extensor of the phalanges and the annular carpal ligament within the bursa through which it glides over the carpus, the muscular end of the tendon being indirectly adherent to the carpal ligament through its fibrous sheath, while the distal end was free in the bursa, hæmorrhagic, smooth and enlarged. The direct or

main tendon of the extensor pedis of the right anterior limb had parted within its carpal bursa, the superior end had become undistinguishably fused with the communicating division without leaving macroscopical traces of traumatism or inflammation. The ruptured end of the distal portion lay free within the bursa, enlarged, ecchymotic and smooth. The communicating branch of the tendon destined for the lateral extensor of the phalanges instead of consisting of one intact cord was teased out into numerous small fibres for a distance of two inches immediately in front of the carpus. The carpal bursa of the tendon appeared normal.

The vastus externus muscles (Fig. III *c*) were but slightly modified in direction; the rectus femoris (Fig. III *b*) assumed an oblique direction downwards, outwards and backwards, while the vastus internus (Fig. III *a*) was stretched across the femur just above the lower articular enlargement in an almost transverse direction, and seemed pale, thin and atrophied.

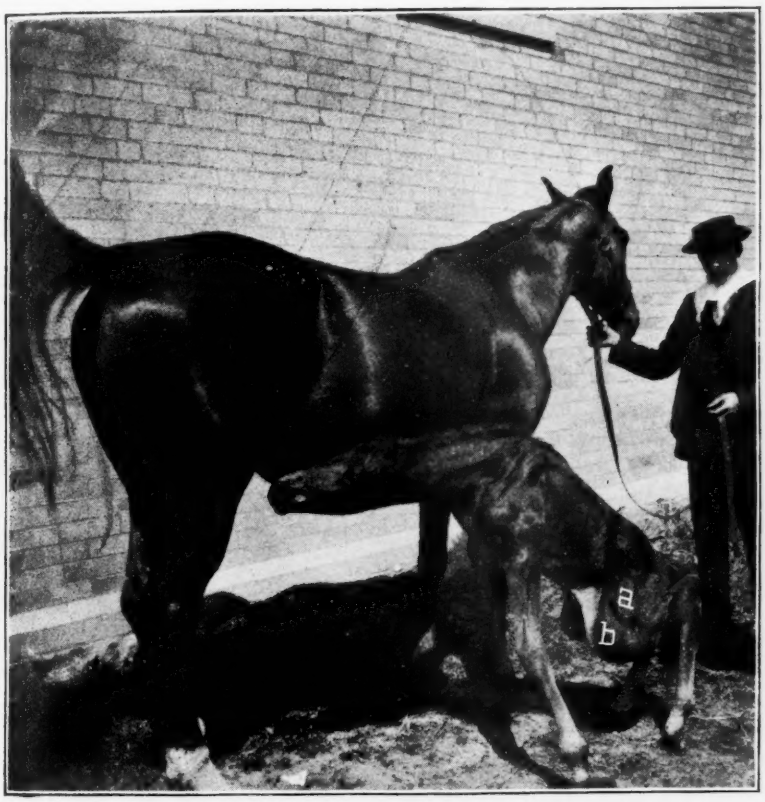
The three tibio-patellar and the capsular ligaments were indistinguishable, being represented by a thick fibrous capsule coequal in extent with the enlarged parts.

The femoro-patellar synovial cavities, which had at an earlier date apparently been much more distended, contained now about one and one-half pints each of an apparently normal synovia, along with an almost equal volume of quite firm, semi-transparent, faintly greenish-yellow synovial clot attached chiefly at the point of union between the capsular ligament and bone, and presenting centrally a free shredded margin three-fourths to one inch thick. (Figs. IV and V *b b*.)

The synovial clots were in places feebly adherent to the articular surface, which was normal, except that at the inferior part of the right femoral trochlea the external ridge had been worn away to a marked extent, denuding it of articular cartilage and subjacent osseous tissue (Figs. IV and V *d*.) As the patella could not at this time be brought in contact with the worn part, the destruction must have occurred at an early stage of the affection.

Well marked ecchymosis was present about the patella and patellar attachments of crural triceps as a result of the dragging of the misplaced parts upon contiguous tissues in the patient's efforts to extend the joint.

The extreme degree of luxation serves to explain and emphasize important facts in the etiology and history of closely



CROUCHING ATTITUDE OF FOAL DUE TO DISPLACEMENT OF THE TWO PATELLÆ.

a Crural triceps muscles. *b* Left patella.

allied or generically identical cases. The history and autopsy point to navel infection as the possible cause, this possibility being increased by the ligation of the umbilical cord, by which means the cut ends of two hollow vessels, the umbilical arteries, which would otherwise retract, were fixed in a position rendering their

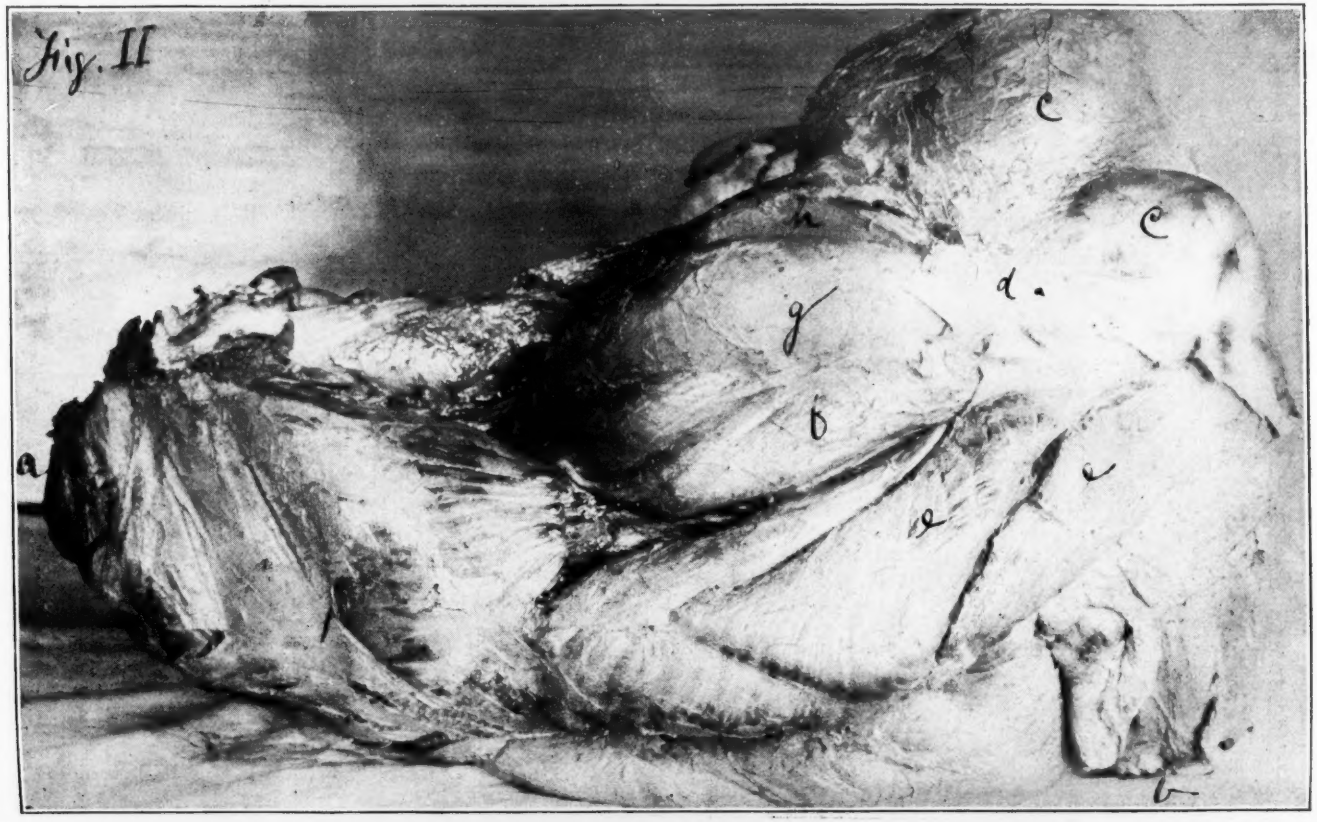


FIG. II.—EXTERNAL VIEW OF RIGHT STIFLE.

a Superior end of femur.
b Transverse section of tibia near its middle.
c c Distended synovial capsule.
d Patella.
e e Long vastus muscle.
f Vastus externus muscle.
g Rectus femoris muscle.
h Vastus internus muscle.

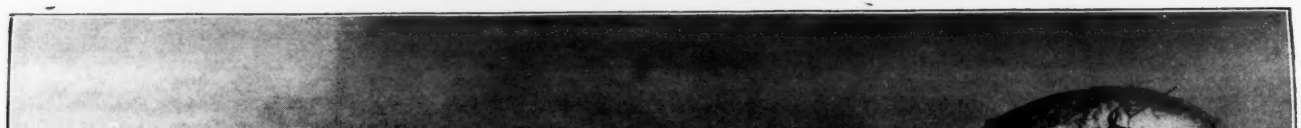


FIG. II.—EXTERNAL VIEW OF RIGHT STIFLE.

a Superior end of femur. *b* Transverse section of tibia near its middle. *c c* Distended synovial capsule. *d* Patella. *e e* Long vastus muscle. *f* Vastus externus muscle. *g* Rectus femoris muscle. *h* Vastus internus muscle.

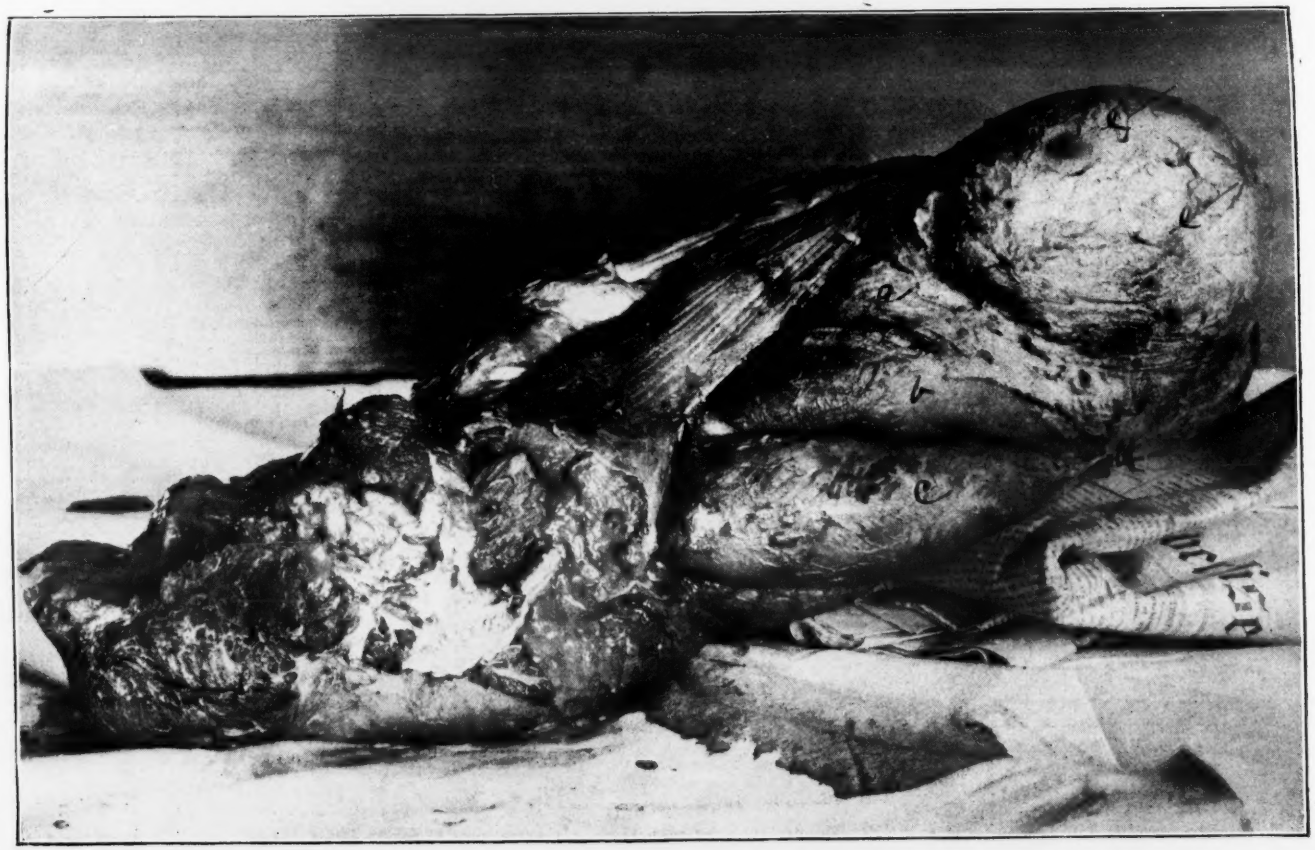


FIG. III.—OBLIQUE LATERAL VIEW OF RIGHT STIFLE.

a Internal vastus. *b* Rectus. *c* External vastus. *d* Patella. *e e* Pins showing position of trochlear ridges.

invasion probable, while the blood and liquids within the tissues of the cord were retained, serving as an excellent culture medium for putrefactive micro-organisms.

The patellar dislocations were evidently due to the hyper-secretion of synovia, which, distending the sacs, lifted the patellæ out of their grooves and beyond their retaining ridges when a combination of forces determined an outward luxation.

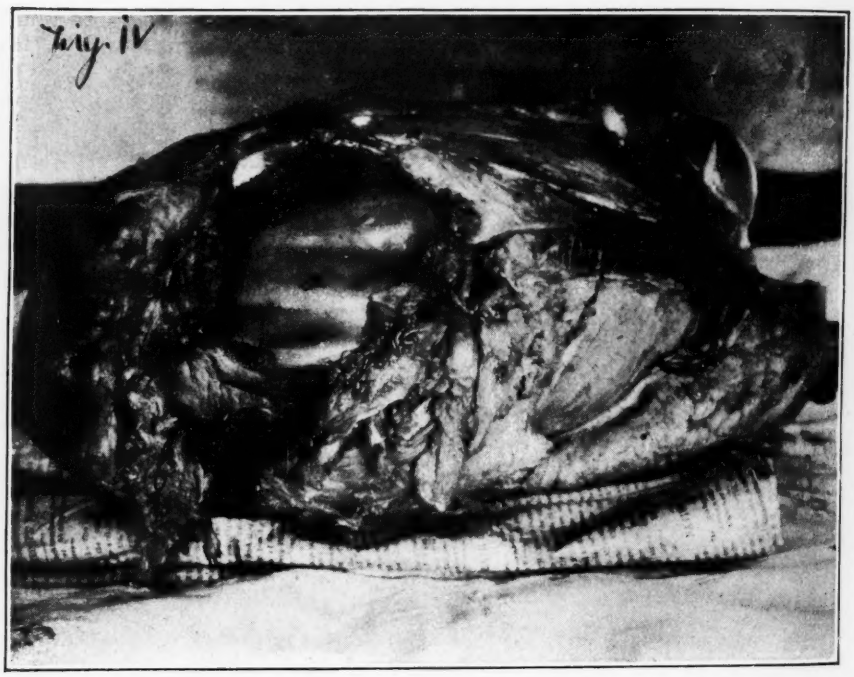


FIG. IV.—ANTERIOR VIEW OF LEFT STIFLE WITH FEMORO-PATELLAR CAPSULE OPENED.

a Femoral trochlea.
b b Synovial clots.
c Location of patella.
d Abraded external trochlear ridge.

It has been held that external luxation of the patella is due to the lesser elevation of the external trochlear ridge, but this alone in such a case could not determine the direction of the dislocation nor even cause luxation at all. In this "floating" luxation the intra-articular pressure is alike in every direction, the walls of the capsule yielding at the various parts in inverse ratio to their strength, supplemented by other contiguous liga-

FIG. V.—OBLIQUE LATERAL VIEW OF LEFT STIFLE WITH CAPSULE OPENED.

a Femoral trochlea. *b b* Synovial clot. *c* Patella. *d* Abraded external trochlear ridge. *e* Femur. *f* Tibia..

ments and tissues involved, so that the longer and thinner internal tibio-patellar ligament would yield more readily than the shorter, thicker and stronger external, thus guiding the patella outwards, which is further greatly favored by the disposition of the powerful long vastus muscle, which through its attachment to the external ligament exerts an abducting power upon the patella which the adductors do not fully counterbalance upon this bone, hence we recognize as factors in outward luxation the lesser external ridge, the lesser strength of internal tibio-patellar ligament and the superior abducting power on the patella of the long vastus muscle.

The degree of luxation was evidently intensified by being bilateral so that any effort on the part of the patient to rise could not be centred on a sound limb, but must fall alike on each of two members, neither of which was capable of bearing weight except by an outward dragging upon the patella, which, buoyed out beyond its groove, was readily drawn from its normal location.

The case serves to illustrate, too, what the writer has long maintained, two generically different forms of patellar luxation, the "floating" form occurring almost wholly in young animals and caused chiefly by *navel infection* and *rickets*, in which, buoyed up beyond its groove by a hydrarthrosis, the patella tends to pass outward during flexion when the crural triceps and consequently the internal tibio-patellar ligament is relaxed and inwards during extension, thus denuding and in time wearing away the external ridge of the femoral trochlea; and the traumatic or direct form, in which the luxation is suddenly produced by violence.

An important fact well emphasized in this case is the value of preventing in young animals the accumulation of sufficient synovia in the femoro-patellar articulation to buoy the patella outwards beyond the level of the trochlear ridges, which is to be accomplished by sufficiently frequent aspirations of the fluid in conjunction with the injection of appropriate remedies into the synovial sac.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

SEROTHERAPY OF TETANUS.

EXPERIMENTAL AND CLINICAL RESEARCHES—TREATMENT OF CONFIRMED TETANUS.

BY E. NOCARD, ALFORT, FRANCE.

At the end of 1895 I presented the Academy with the first results obtained by me in the serotherapy of tetanus in horses. Used as a preventive, antitoxic serum had worked wonderfully; applied to the treatment of the confirmed disease, it had almost always failed, even when the serum had been injected in large doses, and also as near as possible to the appearance of the first symptoms of the disease; all acute cases had succumbed; the recoveries that were observed were only cases of chronic tetanus, assuming from the start a slow progress, and which, without doubt, would have recovered without the use of the serum.

It is because tetanus appears only several days after the absorption of the tetanic virus; giving that long incubation the absorbed toxin has had plenty of time to act upon the cells and produce the effects which belong to it, and from which proceed the tetanic manifestations; if, then, the dose of absorbed toxin is sufficient to produce death, nothing will arrest the effects of the intoxication which has gradually taken place for several days; patients treated even by massive doses of serum die just like those that have received no treatment.

To support this interpretation, I reported experiments which seem to prove it.

A few months ago, the *Deut. Med. Wochenschrift*, 1896, No. 43, published a notice stating that the house of Meister Lucius and Brüning, from Höchst-on-the-Main, offered to physicians and veterinarians a serum, prepared by MM. Behring and Knorr, with which it was possible to cure confirmed tetanus, in man and in horses. This serum is delivered in the dry state; the curative dose is 5 grammes; to use it the dose of dry serum is dissolved into 45 grammes of sterilized water, heated to 40

degrees, and the whole solution injected at once; for horses, venous injections are preferable; the serum acts more completely and more rapidly; 24 hours are gained over the subcutaneous injection. For man, also, the intravenous injection is preferable.

"If the injection is made under the skin, success cannot be expected, in acute cases, only if interference has been applied during the 36 first hours after the appearance of tetanus. On that account this remedy must be kept in stores, in large hospitals, and veterinary institutions. The manufacturers send the curative dose, and it is inexpensive; it is sold at 30 marks (over seven dollars), a very moderate price, considering the efficacity of the product" (*sic*).*

Since the publication of the *Deut. Med. Wochenschrift*, German veterinary papers have recorded a certain number of observations concerning tetanic horses treated by the antitoxin from Höchst. The number of successes obtained has not reached half of the cases treated; and yet all failures are not known; I know, for instance, that at the Veterinary Institute of Budapest three tetanic horses were treated and died. My colleague, Prof. Cadiot, of Alfort, has not been more fortunate with two cases, where the disease did not seem exceptionally severe.

The results in practice do not appear to confirm the promises of the *Deut. Med. Wochenschrift*. I know well that the conditions in practice do not very well allow of judgment in such matters. Most commonly, the veterinarian is consulted late, several days after the appearance of the first symptoms; the failure of treatment may be due to this late application in the interference;—and, again, when the tetanic horse recovers after the injection of serum, who can tell if he would not have gotten well without it? On one side, as on the other, there are probabilities; certainty is wanted; all that careful study of the published observations permit us to observe is that in promising success "when the injection will be made in the thirty-six hours following the appearance of tetanus" the author

* If our memory is correct, the French dose costs 0.25.

of the note in the *Deut. Med. Wochenschrift* has gone too far; to be convinced of it, the reading of the observation published by Prof. Fröhner, of Berlin (*Monatsh. f. Thierh*, 1897, p. 298), will be sufficient. It can be stated in a few words: "A horse was taken the 29th of January with light trismus: three hours after the appearance of the first symptoms, he received in the jugular 5 grammes of dry antitoxin from Höchst, dissolved in 45 grammes of boiled water. The 30th, the trismus had increased; another injection of 5 grammes of antitoxin. The 31st, severe condition of the animal, tetanus is generalized; third injection of 5 grammes of antitoxin; death during the night."

To this observation no one can object to the delay in the interference, nor the insufficiency of the dose of antitoxin injected; the animal had received three times the "curative dose" of dry serum and the first injection had been made three hours after the appearance of the first symptoms; more favorable circumstances could scarcely be expected in ordinary practice; yet the patient died.

Perhaps Fröhner's case was one exceptionally severe?

The truth is that clinical observation is not sufficient to solve the problem; a considerable number of facts, observed in identical conditions, would be necessary. And even then it would be necessary to take into consideration: the district where tetanus has occurred; the nature of the traumatism that caused it; the duration of the incubation, etc.,—conditions that have a great influence upon the severity, march and termination of the disease.

In reality, it is only by experimentation that the real value of a curative treatment of tetanus can be established.

That is what I have endeavored to make in a series of very simple experiments, which have essentially consisted in injecting several horses with a dose of tetanic toxin, sufficiently powerful to kill fatally all inoculated; then, some of these horses being kept as witnesses, the others were treated according to the indications of the *Deut. Med. Wochenschrift.*

The tetanic toxin I used was prepared at the laboratory of Mr. Metchnikoff; it is in powder; it is kept in vacuum, away from light and heat; it has conserved all its strength for more than a year. It kills little mice at the dose of one-thousandth of a milligramme; at this dose it gives lockjaw to large mice, but to be sure to kill them one-thousandth of a milligramme is necessary. 500-gramme guinea pigs died tetanic when they received one-hundredth of a milligramme of that toxin.

In a first series of experiments made upon 16 horses, I calculated what dose minima of that toxin was to be injected to a horse to kill him. For horses weighing from 430 to 480 kilogrammes, the dose minima always fatal is 6 milligrammes; horses that receive but five milligrammes resist in the proportion of 1 to 3, and in one experiment of 1 to 2. In general, it is after an injection of six full days that the first symptoms occur; in some subjects they may be present after five days; in a few others, only 7 days after the incubation. The duration of the disease varies from two to seven days; horses from Hungary or Galicia are affected sooner and quicker; Normandy and Danish horses resist better.

It became easy to establish the exact curative value of the dry serum from Höchst. The only difficulty was its high price. I remarked above that the house from Höchst asked 30 marks (over seven dollars) for each curative dose of dry serum; when we asked for a number of bottles of serum we were asked the double (60 marks) for the dose of 5 grammes of dry serum. Our budget did not permit the expenditures.

I avoided the question in using, in most of my experiments, instead of the serum from Höchst, an equivalent dose of the serum prepared at the Institute Pasteur; it then became necessary to establish the relative value of these two serums. Mr. Metchnikoff has kindly settled this delicate operation; in several instances, he has experimented comparatively with a dry serum delivered by the house of Höchst in December, 1896, and one prepared at Pasteur's in February, 1897, and furnished from horse No. 4. In all those experiments, these two serums have

shown that they possess an activity nearly alike; at the dose of 0 gramme 000,000,000,1 (one ten-billionth of a gramme) both serums protect a mouse against a dose of toxin ten times superior to the killing dose and a hundred times superior to the tetanigenous dose. The Pasteur serum has proved itself a little more active than that from Höchst, as in the last experiments, several mice treated with the last serum have had tetanus of the inoculated leg, while those treated by the other serum remain immune.

The Pasteur serum having an activity at least equal to that from Höchst, I was able to multiply my experiments.

March 14, 1897, at 10 o'clock, I was shown four horses, which the 9th of the same month had received under the skin of the neck 6 milligrammes of dry toxin from Pasteur's. One of them (No. 60,738) was evidently tetanic; in the morning, at 7, he was found with his tail elevated, his neck stiff, and he moved as one piece; *he will serve as a witness.*

The three others (52,824, 45,465, 57,624) presented nothing abnormal at 7 o'clock. At 10 they were examined again, their movements were stiff; I considered them taken and injected them in the jugular; to the first I gave 10 grammes of dry serum of Pasteur dissolved in tepid water and representing 100 cubic centimetres of liquid serum; the other two received 100 cubic centimetres of liquid serum.

March 15 the four horses were very sick, their legs as stiff as posts, trismus well marked, appetite gone.

The witness, the 52,824 and 45,465, had fallen, and on the 16th the tetanus was generalized, dying during the night.

In No. 57,624 the disease had marched more slowly; it was generalized only on the 17th, the horse fell on the 18th and died on the 19th.

Therefore the intravenous injection of antitetanic serum made as soon as the appearance of the prodromes of tetanus is powerless in arresting the fatal progress of the disease, even when the injected dose is double that indicated as curative.

***

The results are identical when the injection is made with the dry antitoxin from Höchst.

April 28th, at 2.30 P. M., I injected 6 milligrammes of dry toxin, under the skin of the neck, to three Danish horses—Nos. 43,480, 48,993 and 52,663.

May 4th, at 8 A. M., none of these horses seemed sick; brought out of their stalls they were gay, strong and supple in their mo[illegible]ments.

[illegible] o'clock P. M. nothing was abnormal.

At 5 o'clock, taken out again, No. 48,993 seemed stiff in his neck and loins; his eye was fixed and prominent; the hostler affirmed that he was taken; it was just six times twenty-four hours since he was inoculated. I injected at once in the jugular 5 grammes of dry serum from Höchst (of December, 1896).

The two horses, examined carefully, had nothing abnormal.

May 5th, 6 A. M., the two untreated horses showed no signs of tetanus. At 10 o'clock examined again; No. 43,480 was a little stiff in its walk. I injected at once, in the jugular, five grammes of dry serum from Höchst (of December, 1896), dissolved in 45 grammes of sterilized water.

May 6th, No. 52,663, *left as witness*, was taken.

The 7th, generalized tetanus in all three; abdomen retracted, neck curved, walking as on posts, still some appetite.

On the 8th and 9th symptoms progressed; resisting trismus, entire impossibility to take food.

On the 10th the three horses were still standing, but in a miserable condition.

At 5 o'clock P. M. No. 43,480 (the one treated) fell—and died in the evening.

No. 52,663 (*witness*) fell and died May 12th.

The last died during the night of the 13th.

* * *

No better results are obtained when the injection of antitoxic serum is made twenty-four hours before the appearance of the first symptoms.

March 9th, at 10.30 A. M., I injected under the skin of the neck, 6 milligrammes of dried toxin to five horses, Nos. 42,153, 45,550, 49,645, 54,407 and 55,718.

March 14th, 10 A. M., none of the horses, examined individually and closely, presented the slightest symptoms of lock-jaw. To the first three I injected, in the jugular, 100 cubic centimetres of Pasteur antitetanic serum (obtained from horse No. 4 on February 15th); the two other horses were kept as witnesses.

March 15th the five horses presented some suspicious symptoms: in the stable a little elevation of the tail could scarcely be observed; when taken out they showed stiffness of the neck and extremities. The 16th tetanus was well marked in all. They all still ate. The 17th general contractions; tail elevated; neck curved; nostrils dilated; prehension of food almost impossible. The 18th they were still worse; about 10 A. M., No. 45,153 fell, struggled, and died in the evening; one witness (No. 54,407) died the 19th, at 4 A. M.; the other in the evening towards 5 P. M.; the two others fell on the 20th and died the same day.

Therefore, the intravenous injection of a large dose of antitoxic serum is powerless in arresting the development of tetanus, resulting from a dose of toxin, always fatal to witness, even when this injection is made twenty-four hours before the appearance of the first symptom.

* * *

If interference is applied 48 hours before, there are many chances for the patient to escape; sometimes even the appearance of any tetanic symptom is avoided; but the injection must be made with large doses of serum, introduced in the veins.

(1) February 24, 1897, I injected 6 milligrammes of dried toxin under the skin of the neck of two horses, Nos. 46,214 and 49,344.

February 28, in the *jugular* of the first, I injected 100 cubic centimetres of Pasteur serum (obtained February 15th

from horse No. 4). The other inoculated horse was kept as witness.

March 2d, 12 o'clock, the witness had certainly taken; his tail was elevated; there was stiffness of the neck and loins. March 3d, tetanus generalized; abdomen retracted; legs stiff as posts; nostrils dilated; head extended on contracted neck; he died during the night.

The horse on treatment escaped all tetanic symptoms.

(2) March 9th, a Danish horse (No. 54,096) received, under the skin, with 13 other horses, 6 milligrammes of toxin.

On the 13th, he received, *under the skin*, 60 grammes of Pasteur serum (obtained February 15th from horse No. 4). Two other horses, (Nos. 54,407 and 55,178), left as witnesses, were taken only on the 15th of March. Therefore, the treatment preceded the appearance of tetanus by 48 hours. Nevertheless, on the 16th, the treated animal was effected; the 18th, the disease was generalized, he died March 21st, two days after the witness.

The dose of serum injected might have been sufficient to save the animal, if the injection had been made in the jugular instead of under the skin.

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A last series of experiments show well the great preventive value of the antitoxic serum; a very weak dose of serum is sufficient to prevent the appearance of tetanus, when the injection is made, even under the skin, a short time after the animal has received the dose of toxin, always fatal for the witnesses.

March 9th, 10 A. M., under the skin of the neck of fourteen horses I injected 6 milligrammes of toxin: of these, three not treated and used as witnesses became tetanic, one (Hungarian) March 14th, the two others (Danish) the 15th. Seven others, treated either at the moment of the appearance of the first symptoms, either twenty-four or forty-eight hours before, contracted a fatal tetanus.

The four last resisted, thanks to a more early treatment.

No. 46,443 (Norman) received under the skin 10 c.c. of Pasteur

serum, one hour after the inoculation of toxin; he never presented the slightest symptom.

No. 49,298 (Norman) received under the skin 20 c.c. of same serum twenty-four hours after the injection of toxin. This one has not shown any signs of illness.

No. 54,378 (Danish) received under the skin 30 c.c. of serum, forty-eight hours after the toxin; some stiffness and curvature of the neck existed on the 19th of March, it lasted some two weeks; but the animal kept eating, was gay and his legs supple; he never was very ill; recovery took place rapidly.

No. 60,277 (Hungarian) received under the skin (March 12th) three days after the injection of toxin 40 c.c. of serum. In the morning of March 14th, he was certainly tetanic; the same day at 10 o'clock he was injected in the jugular with 75 c.c. of serum; until March 25, the disease went on progressing, and then gradually diminished to such degree that on April 4th everything was normal with him, except a marked curvature of the neck, on the side where the toxin had been injected.

If the extreme severity of this experiment is taken in consideration—viz., the dose of toxin, always fatal to witness, having been injected all at once and immediately absorbed, one can affirm that, in daily practice, there will be a great many chances to arrest the evolution of tetanus or to prevent its appearance, by interfering even several days after the traumatism. But one must well know that the more the interfereuce is delayed, the greater the dose of serum to inject must be.

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From this long experimental study, I believe I am right in concluding, as I did in 1895, that the curative treatment of tetanus is yet to be found.

This does not mean that the use of antitoxic serum in the treatment of confirmed tetanus must be abandoned.

Far from it! It is my deep belief that the injection of serum is the best mode of treatment that one can employ. Indeed, all those of my colleagues that have treated tetanic horses by injec-

tions of serum say they are pleased with it, not because the number of recoveries obtained had been greater, but the disease has been less severe, and when recovery has occurred the convalescence has been shortened.

Besides, it often happens that the traumatic course of the disease escapes all researches and the "eradication of the infected centre" so well recommended cannot be made; the development of the toxins goes on, the tetanic intoxication is increased; it is specially in these cases that serum shall be useful; powerless against toxins already absorbed at the time the treatment is begun, it may destroy, at the time of their formation, those that the undiscovered centre may still produce.

Unfortunately, these cases are very rare, and most often the antitoxic serum does not prevent tetanus progressing to its fatal end. If, then, serum is to be still used in the treatment of confirmed tetanus, the veterinarian who will expect to cure the majority of his patients will be exposed to hard disappointments. To-day, as yesterday, most elementary prudence imposes the preventive injection of serum in all kinds of traumatisms which are known to be frequently followed by tetanus.

RESULTS ATTAINED AND ATTAINABLE BY STATE CONTROL OF TUBERCULOSIS.

By John M. Parker, D. V. S., Secretary Massachusetts Cattle Commission, Haverhill, Mass.

Read before the United States Veterinary Medical Association, at Nashville, Sept. 8, 1897.

Before considering more fully the subject matter of this paper, you will pardon me if I stop for a moment to notice one or two stray thoughts that have occasionally occurred to me.

It has seemed sometimes in discussing this subject that there has been too great a tendency among the members of the profession to look upon everything as secondary to the question—as to whether a cow reacted to tuberculin or not. It has seemed as if there had been too great a tendency to let everything else go,

to pay no attention to anything except tuberculin and tuberculosis. I have often felt that this whole matter should be taken up in a broader, more general way ; that the important question of wholesome milk should receive greater attention than it has. The work being done by the various sanitary boards should be broadened, and widened. They should pay greater attention to the value of cleanliness and light, ventilation and drainage. Tuberculosis is not the only evil to be avoided, and in attending to the surroundings all are helped and both consumer and producer are benefited.

Again, it has seemed to me sometimes as if there had been too much anxiety among certain veterinarians to increase and exaggerate such danger as their might be, not so much for the good of the public as because the more the people became panic stricken the greater the likelihood that their pocket-books would be fattened.

On the other hand, it is only since the introduction of tuberculin that we have had any reason to hope that we may finally be able to control the spread of tuberculosis among dairy cattle. Tuberculin has not only enabled us to rid many individual herds at least temporarily of tuberculosis, but it has greatly modified and changed the generally accepted opinion of tuberculosis.

It has enabled us to gain a truer insight into the mysteries of heredity, and it has shown more clearly the prevalence of tuberculosis.

Probably one of the most important of the new facts brought to our notice through the use of tubeculin is a knowledge of the immense number of latent or undeveloped cases of tuberculosis that exist in every herd. It is startling to see a large number of autopsies made, and note what a large proportion show only very slight evidence of disease. In referring to this matter Bang says : " As soon as tuberculin inoculation was undertaken on a large scale the public was surprised at the very large number of reacting animals, even in herds of healthy appearance. I refer to the work as done first by Koepp in Dorpat,

then by Siedamgrotzky and Eber in Saxony, Nocard in France, Malm in Norway, and others.

"The Danish investigations have yielded exactly similar results. Where tuberculosis exists it often has an extent which no one had suspected. The discovery produces at first a benumbing effect and is always very painful to the owner of dairy stock. Because of this it cannot be made too emphatic that there is a great difference between what was formerly termed tuberculosis and what, as a result of the tuberculin test, is now indicated by the same word. When a reacting animal is butchered, the butcher very often finds no trace of tuberculosis and the veterinarian must search carefully to discover the little knots on the lymph glands, frequently the only pathological signs.

"These are especially in the retro-pharyngeal, mesenteric, mediastinal and bronchial glands. The majority of reacting cows have simply latent tuberculosis. In time this may develop further in many cases. But my investigations have shown that such tuberculosis can often remain without development for years, and exert no influence on the general health or the functions of the animal. We cannot conclude from this observation that an animal which reacts with tuberculin is thereby condemned to advancing disease, to wasting away and final death. The reaction simply indicates the possibility of such a result. Whether or not it will prove a reality, we do not know."

Prof. Theobald Smith in an address to the Harvard Medical Alumni notices the same thing when he says: "The need of a better education in animal pathology is well shown by the work undertaken in this country by public authority to restrict, suppress or eradicate tuberculosis among cattle. Tuberculin produces a temporary fever in all infected animals, whether they be in the earliest stage of the disease or in the most advanced stages. In fact the not infrequent absence of any lesion after a tuberculin reaction is explained by the statement that the focus or foci could not be detected. There are a large number

of cattle slaughtered on the evidence furnished by tuberculin which are in the earliest stages of the disease. A small focus in a mediastinal gland, perhaps, or in one of the throat or messenteric glands, is all that can be found.

"Pathology has informed us that traces of stationary or healed tuberculosis, unrecognized during life, are not infrequently encountered on the post-mortem table. Are such persons to be placed within the class of diseased or simply infected? I believe that an infected animal is not necessarily an affected or diseased animal, and that no one can predict just what is going to become of a primary focus, whether it will gradually encroach upon neighboring organs or become generalized, or become calcified or cicatrized." (See p. 320 Boston *Med. and Surg. Journal*, Sept. 24, 1896.)

Practically the same thing was demonstrated by Pizzini, who has reported "observations upon lymph glands of persons having died without showing any evidence of tuberculosis. In 12 out of 30 cases examined microscopically and by inoculation in guinea pigs tuberculosis was demonstrated, and the further fact shown that only those guinea pigs inoculated with bronchial glands showed any evidence of disease." (*Annual of Med. Sciences.*)

This is further corroborated by reported observations made at Johns Hopkins University and elsewhere, from the large number of autopsies made on people dying from causes other than consumption that show evidence of undiscovered or healed tuberculosis. From the number of cases in which this occurs it is evident that a larger number of people have consumption at one time or another during life and recover, than there are that die from this disease.

Such a state of affairs is significant and the only inference to be drawn is that tuberculosis is far more prevalent among human beings than we have had any idea of, and in fact that practically the same conditions exist among people that have been found, through the use of tuberculin, to exist in cattle, and if tuberculin were used as a diagnostic agent among people

we would probably find that in a large number of cases individuals would react to the test that are at present considered healthy.

Under these circumstances we would repeat the question asked by Prof. Smith, "shall all these people be considered diseased, or only infected?" We incline to the belief that there is a considerable difference between such *infected* people and those that are *affected* or *diseased.*

In this connection it may be of interest to glance for a moment at the statistics showing the reduction in the death rate from tuberculosis in Massachusetts. During the past forty-five years consumption has steadily and uniformly decreased; the maximum and minimum death rates being 42.7 per ten thousand in 1853 and 22.7 in 1893.

In Glasgow, Scotland, the figures are almost exactly similar.

In the period from 1860–64 phthisis reached its highest mortality, viz., 4094 per million. In the period from 1890–94 it was 2315, so that in 25 years consumption has been reduced 44 per cent. in fatality without special treatment as an infectious disease.

Unfortunately phthisis is the only form of tuberculosis which has been throughout consistently classified by the Registrar-General as a cause of death.

Then the report goes on to say: "We are therefore shut up the twelve years 1883 to 1894, for evidence of the movement of tuberculosis diseases *other than phthisis.* Dividing them into two periods of six years we find that the death rate from 'phthisis' has fallen from 2849 per million to 2316 and from 'other tubercular diseases' from 1090 per million to 884, in both cases 19 per cent., a result which quite casts into the shade the improvement in Prussia and Saxony, quoted from Cornet, which he puts down to the credit of special prophylaxis. Clearly, then, we are warranted in asserting that among infectious diseases, tuberculosis is the most amenable of all to general hygienic measures, that, in fact from these alone as good results are obtained as from hygienic measures plus isolation, disinfection, etc., in the case of diseases popularly known as infectious. It is not implied

that special measures directed against the infectivity might not have produced even better results; but in view of the difficulties in the way of special prophylaxis, it is to be contended that more is to be expected from hygiene." (Report Glasgow Board of Health.)

The special interest attaching to the reduced mortality from this disease in both Massachusetts and Glasgow seems to me to be due to the fact that these improved conditions have been attained entirely as a result of a better knowledge of the disease and a more strict carrying out of hygienic measures.

Such a retrospect is encouraging when one considers that similar results would follow the introduction of like measures when applied to dairy cattle, but before this can be done people must recognize the necessity for it, and the great room for improvement there really is.

Before considering in greater detail the control work that has been done in Massachusetts, let us turn for a moment to some of the other countries and states where such work has been attempted.

In European countries probably the laws in force in Denmark are best known. There for many years past owners have attempted to control tuberculosis by removing diseased animals and having the stalls and stables disinfected, and, as Bang remarks, "These efforts were not without significance. The conditions of health were improved, especially in places where the entire herd was subjected to thorough investigation by a competent veterinarian, and where the owner and veterinarian worked harmoniously together. But even with these conditions it was hardly possible to be entirely freed from the disease. The hidden latent cases always remained, and were continuously coming to the surface."

After the introduction of tuberculin, Bang conceived the idea of dividing the reacting animals from those that did not react, and when the reacting animals showed no physical evidence of disease they were used for breeding purposes and their progeny immediately separated and kept with the healthy lot.

In this way a new healthy herd was gradually built up. The state assisting by providing tuberculin and veterinary services free, animals showing physical evidence of disease are destroyed.

In Switzerland a somewhat similar plan has been adopted. There the state pays half the cost of test, and only entire herds can be tested. All cattle that react must be branded.

The French method is slightly different: there if an animal is found to be diseased, the state tests the entire herd, the owner having the option of keeping those that react for one year or slaughtering them immediately and receiving compensation from the state. All cattle coming into the country must also be tested.

The Government in the Dominion of Canada provides tuberculin free, this being done principally for educational purposes. It is also proposed to test herds in which disease is known to exist, and, as in France, all cattle coming into the country must be tested.

In Ontario the Board of Agriculture have strongly advocated Bang's methods among the farmers. If the milk, they say, from the reacting cows is used for the calves it should be pasteurised.

They state that "It is advisable to fatten quickly the animals that give a reaction with tuberculin, but are apparently healthy, and sell them to the butcher, making calculations to get rid of all reacting animals in the course of 18 months or two years."

They also state "Up to the present time these tests for tuberculosis by means of tuberculin have been carried on by experts, veterinarians, etc., but that is no reason why any intelligent man who makes an effort to post himself as to the methods of keeping clean and using the various instruments should not test his own herd from time to time.

In New York, New Jersey, New Hampshire, Maine, Vermont and Rhode Island, owners receive half valuation for cattle killed and found diseased and full valuation if condemned and killed and found free from disease. Pennsylvania, Connecticut,

Illinois, Indiana, and other states give limited appraised value. In most of these states tuberculin is used either at the owner's request or in such herds as are known to be diseased. Connecticut relies almost entirely on physical examination.

In Pennsylvania, New Hampshire and Massachusetts experimental work is being conducted in various directions at the present time,and the results will be well worth noticing. In Massachusetts the principles are practically the same as in these other states. The state pays full value for diseased animals with a limit of $60. All cattle coming into the state must be tested, and tuberculin may also be used as an aid to diagnosis on animals condemned on physical examination by a qualified veterinarian, and at the written request of owners, provided they agree in their turn to certain conditions prescribed by the Cattle Commissioners.

In Massachusetts the work of inspection has been, I think, fairly successful ; in considering it, I would divide it into two divisions : 1st, as a factor in the protection of the public health ; 2d, as a help to to the farmers and stock owners in their endeavors to rid their herds of disease. It seems to me that these two points must be considered separately. Many facts must be considered and the matter must be looked at from many points of view before one can gain even a faint idea of the magnitude of the subject, and it seems to me that in view of the many interests involved, since we cannot stamp it out by heroic measures, we should be content if we can make steady and substantial gain.

We have only to look back a very few years to the time when milk was sold and cattle were butchered without any kind of supervision whatsoever. At that time the meat from "coughers" and "bolognas" were placed on the market and milk was sold without any restriction, so far as the health of the cow was concerned.

In 1876 (according to the Report of the Cattle Commissioners for 1895) an act was passed providing for the appointments of inspectors of provisions and animals intended for slaughter.

This was a permissive act, simply providing that the Mayor and Aldermen of cities and the Selectmen of towns may annually appoint one or more persons, who may inspect all provisions and animals intended for slaughter. Under this act, which was taken advantage of by the cities and towns only slightly, it was found to be impossible to organize any systematic inspection of the herds of cattle in the state, and in 1892 the law was so amended as to provide that the same authorities "shall annually in the month of April appoint one or more persons to be inspectors of provisions and of animals intended for slaughter, or kept for the production of milk." Under this latter act, however, no penalty was provided for the failure of the cities and towns to make the appointments required by the act, and it was found necessary to again strengthen the law. Accordingly, in 1893 a penalty was provided for cities and towns failing to appoint inspectors as required by law, and, further, the inspectors were, by this act and for the first time, brought under the partial control of the Cattle Commissioners, by giving the board the right to make appointments where cities or towns failed to do so, and the power to remove incompetent inspectors.

This latter act was approved May 3, 1893, and immediately after its passage this board undertook to collect the names and addresses of the various inspectors; to instruct them in their duties, in so far as they related to the matter of the suppression of contagious diseases among the domestic animals; and to see that, so far as possible, animals intended for slaughter or kept for the production of milk were inspected as thoroughly as circumstances would permit.

The first attempt to collect the names and addresses of the various inspectors was begun on May 12, 1893. Up to about Oct. 15, 1893, only about one-half of the cities and towns in the Commonwealth had complied with this requirement.

From this small beginning, and in the face of many discouragements, the organization of this corps of inspectors has been developed, until now (1895) all but four of the cities and

towns in the Commonwealth have made the necessary appointments.

This was a long step in the right direction. The principle involved was right. It secured the inspection of each herd in the state, and as I shall endeavor to show later, it has resulted in an immense amount of good. Of course the system is by no means perfect; the local authorities, except in large towns, rarely appoint qualified men for the position. I hope, however, that before long instead of the local town inspector the state will be divided into districts, each district being in charge of an experienced, qualified veterinarian. In this way the work will be done far more thoroughly and one of the principal objections to the present method will be done away with.

(*To be continued.*)

TREATMENT OF THOROUGHPIN.

By Charles Cowie, M.R.C.V.S., Ogdensburg, N. Y.

A Paper read before the New York State Veterinary Medical Society, at Syracuse, Sept. 15, 1897.

The subject which I have chosen to make a few remarks on before this progressive society may be considered old and threadbare, and, to myself, it has been apparent that I can have but little new on the subject to bring before you, with the exception of a more successful method of treatment than is recommended in most of our text-books.

Thoroughpin is an excessive accumulation of synovia in the bursa of the flexor pedes perforans tendon, situated at the upper and posterior part of the hock. The fluid which it contains can be forced by pressure from one side to the other, and for this reason it derives its name. This derangement or blemish is met with in all kinds of horses, and all ages, but more frequently in young animals. The straight upright hock is said to be more liable to develop it, but I think this is more apparent than real, the bursa being more confined would bulge laterally with the slightest accumulation of fluid.

Before considering the causes of thoroughpin let us glance for a moment at the structure and uses of a bursa in health. It is a thin membrane lining joint cavities and sheaths of tendons, secreting an oily fluid called synovia, to prevent undue friction between structures that move on each other. It is similar to the serous membranes that line the thoracic and abdominal cavities, made up of pavement and endothelian cells and underneath are more or less dense fibrous stroma, containing nerves and blood-vessels. The fluid secreted is of a pale yellow color of an oily consistence. A bursa in normal condition is found to contain only a sufficient quantity to lubricate its interior, but in disease may accumulate such a quantity as to assume large proportions.

In regard to causes: when we consider the almost complete immunity from bursal distention found in other animals, we are led to the conclusion that it is the nature of his work; and when an animal presents bursal distention, we consider that he has been worked or driven prematurely.

Over-driving, over-working, sprains or other injuries, slipping on pavements or otherwise, will often produce thoroughpin.

With some horses there is a predisposition from an inherited weakness, either local or systemic.

In regard to the pathology: in its first and simplest form it consists of a simple distention of the bursa, with a superfluous quantity of its normal secretion, without any inflammatory action, causing neither pain nor lameness, and due to an increased activity of the cells, the synovia being secreted faster than it can be absorbed or used. In some cases, however, especially when the direct result of a severe sprain, inflammation and lameness are prominent symptoms. In some cases, as time goes on, the bursal walls become thickened and hardened. The contain fluid altered in consistence; and in the case of wind-galls, has been known to become osseous. In most cases there is no structural alteration whatever, and when once formed persistently remains so.

Treatment of Thoroughpin.—As a rule, the cases we are called on to treat are the better class of horses; a promising colt, a carriage or coach horse, or those being fitted for market. It is a blemish we are called on to remove. Not usually being associated with lameness, we are seldom wanted in the case of the work horse. In cases of a recent nature, and those attended with inflammation and lameness, the form of treatment should be rest, high-heeled shoe, and antiphlogistic measures. Nearly all we meet with are non-inflammatory, and can scarcely be regarded as a diseased condition; some mechanical means must be resorted to in order to remove the fluid and prevent its reformation.

It has long been my opinion that counter-irritation, either in the shape of liniments, blisters or firing, is useless, as there is no irritation there. The compress is also resorted to, but, in my experience, is long and tedious, not surgical, and any benefit derived from it is transient. Puncturing the sac and withdrawal of the fluid is also useless, as it will, in a very short time, fill up again. Puncturing and withdrawal of the fluid, followed up with the injection into the bursa of some irritating fluid, such as carbolic acid and iodine, has sometimes been tried with benefit, but the intense form of inflammation, sometimes of a suppurative nature, that often follows, has caused me to look upon it with disgust. Setons have also the same objection. The most successful method I have found in dealing with thoroughpin, and also applicable to other bursal distentions other than true joint bursæ, and I have operated on several during the past year, is to withdraw the fluid with a fine trocar and canula, puncturing the bursa at its lower margin and on the inside of the leg, manipulating and pressing out as much of the fluid as possible, then driving the round point of the thermo-cautery heated to redness several times into the bursal sac. I found that it is not necessary to fire the other side of the leg deeply, and thus avoid marking where it would be more readily observed. I then apply the ordinary blistering ointment, and in a week or two put the animal to work or exercise.

An adhesive form of inflammation is set up in the interior of the bursa, destroying the greater part of the secreting surface, and in few cases have I ever seen it refill. If it should it only calls for a repetition of the operation.

GLANDERS.

USE OF MALLEINE IN DOUBTFUL CASES.

DIRECTIONS OF THE CONSULTING COMMITTEE ON EPIZOÖTICS IN FRANCE.

Injections of malleine can, as well as inoculations of suspicious products (discharge or pus), be very advantageously employed in the diagnosis of suspicious cases of glanders.

In all the cases where revealing inoculation can be applied (donkey, guinea pig, dog), malleine might also be used; in fact, ought to be if it gives the complete reaction (hyperthermy, large and painful œdema, prostration, etc.,) the diagnosis, revealed by the positive result of the inoculations, will have a higher degree of certainty; and, besides, it is not rare to meet with lesions similar to glanders, whose products, inoculated in the peritoneum of male guinea pigs, give rise to the formation of an orchitis very similar to that of glanders; then the veterinarian might be tempted to advise the slaughter of the sick animal, but the absence of all reaction to the injection of malleine will guard him against this error of diagnosis.

And, again, there are doubtful cases where the revealing inoculation cannot be used, no inoculable material (discharge or pus) being available.

It is especially, then, that malleine injections must be used; when it gives rise to an elevation of temperature, in the neighborhood or above two degrees, and at the same time, to a warm, painful, lasting large swelling, loss of appetite, chills, prostration, etc., the veterinarian can affirm that the suspicious individual is really affected with glanders and demand the slaughter.

The suspicious animal once condemned and destroyed, what

line of conduct is indicated towards the other animals of the same stable?

Actually, the contaminated stable is declared *infected*, all the animals that it contains are submitted to inspections by the sanitary service; the owner cannot dispose of them except to have them killed; he cannot work them unless they do not present suspicious signs, and then only under the regulations prescribed by the authorities; the declaration of infection is raised only when two months have elapsed without the occurrence of another case of glanders in the stable; animals that still present some doubtful symptoms remain under sanitary supervision for a year.

It is rare that a case of glanders remains single in a stable containing a certain number of horses; the rule is, that others take the disease in turns. But, before presenting visible symptoms which suggest precautions against them, they may have spread around them the germs of the disease and have contaminated others; it is in that manner that glanders is propagated and at times remains in large establishments, killing a greater or smaller number of animals.

Injection of malleine, in those which among the contaminated are actually dangerous or may become so, operates to prevent the danger. Therefore it is prudent to submit to malleine all the stable-mates of a horse condemned for glanders:

(1) Those which give the ordinary reaction (hyperthermy, œdema, prostration, etc.) shall be declared suspicious; they should be carefully isolated from the others, marked and submitted to sanitary supervision for a year, as well as those which had presented symptoms which could have some relation to glanders; during this sanitary supervision, injections of malleine shall be renewed (every two months); those which, besides the reaction to malleine, would present any of the clinical signs of glanders (indurated gland, discharge, suppurative lymphangitis, sarcocele, nasal or cutaneous ulceration, etc.), shall be considered as glanderous and destroyed; on the contrary, those which have failed to react to two successive injec-

tions of malleine shall be declared healthy, they can return to work, the owner can dispose of them at his will.

In all cases, subjects declared suspicious by the injection of malleine, shall remain under sanitary supervision as long as they have not failed to react to two successive injections; they can be used as long as they will not present any dangerous *clinical* symptoms, and only under the condition that they will not be allowed to drink in public draughts or go into any other stables but their own.

(2) As to the contaminated horses that have not reacted, they can be used freely, but they must be kept strictly isolated from the suspicious, and their stable, with grooming objects, disinfected; they cannot be sold during the two months that the malleine test shall be applied.

REPORTS OF CASES.

WORMS IN THE APPENDIX OF A PUPPY.

By N. B. RHODES, D.V.S., Tampa, Florida.

I send you by outgoing express a specimen of what has the appearance of a case of appendicitis in a dog. As I have never found a description of such a condition in the dog, will you kindly make examination and report the result through the REVIEW.

The history of the case is as follows: A Mr. Morris, of this city, brought to my hospital a very handsome pointer puppy of, perhaps, four months of age. The little fellow was suffering from distemper, with the upper portion of the lungs affected; temperature 104.2° F., respiration difficult, with occasional light rigor, head and ears drooping, eyes red and watery, stomach distended and sore. The owner informed me that he had not evacuated his bowels during the previous twenty-four hours, and that he had given him two ounces of castor oil the previous night (I saw the little fellow early in the morning). I covered his lungs and chest with oiled silk and light flannel, gave him a good steaming, put him on acetanilid and bisulphate quinine every two hours, and one drop tincture aconite every four hours, and repeated warm water enemas, which, however, failed me up to 10 P. M., when an injection of glycerin had the desired effect, when I left him for the night.

Marked improvement next morning, and toward evening moved around with some disposition to play; showed some hunger, and was allowed a small quantity of beef's liver (previously crushed), thoroughly boiled, into which a little Indian meal had been stirred. The next morning he was apparently in a normal condition, appeared lively and full of play; was quite hungry, and was allowed a moderate meal of the liver and meal. In the afternoon his owner was allowed to carry him home with the bandages still on him, but to bring him to me the next morning, which he did, and the bandages were removed. Two nights later I was informed by the owner that he seemed to be suffering again, and, upon visiting him, found he was suffering from abdominal pains. I gave him morphia to allay pain, and left him for the night. The next morning he was still suffering great pain. Hot poultices and applications of hot salt to the abdomen gave him only slight relief. As much as one-fourth grain morphia hypodermically only overcame the pain and gave him ease for about fifteen minutes. The last few hours he howled incessantly, unless he was in the arms of some one, and then he could not remain still. The autopsy revealed the condition as shown by the specimen.

[Dr. W. J. Coates, of the American Veterinary Hospital, received the specimen, and upon examination found the appendix to be normal—no inflammation nor ulceration; but upon laying it open discovered eight or ten pin worms occupying its cavity.—EDITOR.]

NEW TREATMENT FOR PARTURIENT APOPLEXY.

By FRANCIS ABELE, JR., Quincy, Mass.

I had always had such poor success with parturient apoplexy in cows that I looked around for new ideas—I do not mean original ones, but the treatment of other veterinarians that had success with the disease. I was sure of one thing and that was that most cases died from mechanical bronchitis. It was easy to guess why. Nine out of ten were horribly constipated. Nine out of ten had bladder badly distended. Nine out of ten bloated while on flat of back and died in stupor. So my treatment became this: If called before too much stupor, rouse the patient with cold water thrown in face and ears; then drench with one pound Epsom salts, one-half pound common salt, one-quarter ounce or so of gamboge and same of ginger in two quarts of water at as warm a temperature as she could stand. If too stupid to be roused would not attempt it.

I keep animal propped up on sternum by a grain bag or two and bedding, never allowing head to get around to side.

Rub liniment of ammonia, turpentine and oil along spine and back of horns. Give big enema of warm water and glycerine (one pound). Some of the pellets may have to be removed by hand. I often use two pailfuls of water. Next draw urine with a catheter. This usually takes some little time and patience with me.

I then leave the attendant with a bucket of cold water and a quart of medicine, with orders to dash the water into her face if drowsy and to milk her and roll her over to other side and give medicine every two hours.

The medicine I leave is

℞ Fl. extr. jaborandi, ℥ i.
Ether sulph., ℥ ii.
Fl. extr. aconite, ℥ i.
Fl. extr. nux vomica, ℥ ss.
Olei lini., ad Oij.

Mix. Sig. Give tablespoonful on tongue every two hours after turning patient over.

It is needless to say she is aroused when she gets it or that she cannot choke much on it.

I have lately had very good success with this treatment.

LARGE CALCULUS FROM A MARE WITHOUT CEASING WORK.

By William Jakeman, D.V.S., Halifax, N. S.

About a month ago I was asked on the street to look at a gray mare, one of a hack pair, which the driver said was continually dribbling urine, which could be readily seen on her quarters, and an offensive odor was quite observable. I told the owner, who was standing by, to send her to my place and I would make an examination and determine, if possible, the cause of the trouble. She did not come, however, until last week, being kept constantly at work. She was a sorry-looking sight, passing now constantly a mixture of blood and urine. After cleansing her, I placed a twitch upon her nose and secured one fore leg, and then passed my hand into the vagina, when I could feel the bladder shriveled, contracted, with greatly thickened walls, and containing a hard substance, which I decided was a calculus. On passing my finger into the meatus urinarius I found it greatly dilated, so much so that with a little manipulation I could get two fingers in and could feel the calculus. I then injected into the bladder a quantity of carbolized oil, and with the use of a pair of long forceps and a little patience I succeeded in extracting the stone, which weighed 2½ ounces and measured 2½ by 3 inches and about 1 inch thick, with a very rough surface. I have washed the bladder daily with a

solution of boracic acid. The mare has been kept at work, and to-day urinates quite normally, and has improved in condition.

To the readers of the REVIEW this may not be of much interest, but to me it is, on account of the mare doing her share of work each day, and the stone being removed without throwing.

GRAFTING DOG SKIN ON SHETLAND PONY.

By GEORGE COHEN, D.V.S., New York City.

On the first day of July, 1897, I was called upon to treat a buckskin mare, four years old, 10¾ hands high, suffering from a severe inflammation, which was manifested by a wound six and one-half inches wide and about nine inches long on the superior face of the superficial gluteus muscle. The only history I could obtain was that about a week previous to my call the owner, Mr. Abraham Levy, of Arverne, Long Island, was driving her, and suddenly a large bug, resembling the common stinging bee, alighted upon the animal at the point of the wound, a small stream of blood was noticed oozing from the wound caused by the insect.

I treated the wound antiseptically, and noticed in a few days time that the skin refused to heal and no granulations were present. The owner valuing the animal as a pet, and not desirous of losing a few dollars in these hard times, I deemed it advisable as heroic treatment to try skin grafting. The realization was greater than the anticipation, for, after following closely the mode of operation of skin grafting in the human subject, I was rewarded by seeing healthy granulation taking place, and to-day the wound is only noticeable by a little different color in hair, as the dog's hair was of a lighter color than that of the mare.

VALVULAR DISEASE OF HEART IN THE HORSE.

By FRANCIS ABELE, JR., Quincy, Mass.

A horse had history of having a "fit" every time they took him out. It was a noble brown high-school horse, about eleven years old; was one of a gentleman's pair, and good in saddle or harness, or single or double. He had a nervous disposition, but was perfectly controlable. Was told he would begin to sweat, seem in pain and showed unmistakable expression of what would happen, would reel, possibly fall. When up would go right along about his business. They had bled him, cut down his grain, etc., but all to no purpose; then called the veterinary. Suspected, so examined heart. Found it fluttering; proba-

bly due to stranger's presence. Abruptly it slacked to almost normal, but about every fifth beat was skipped.

Prognosed no recovery, but as owner wanted him given every chance, ordered him at pasture, and daily administration of digitalis and potass. iodide. One week later, found no fluttering (he was probably used to my examination), but heart beats were even more irregular. Diagnosed valvular disease of heart. Like the horse with the thrombus, how many of us would pass him for sound.

THE TUBERCULIN TEST IN MASSACHUSETTS.

REPORT OF THE EXPERTS EMPLOYED BY THE LEGISLATIVE COMMITTEE.

(*Continued from page 411.*)

We conclude this month the voluminous report of the special joint committee of the Massachusetts Legislature appointed to investigate and report upon the findings in a large number of cattle in the vicinity of Lowell which had been condemned by the Cattle Commissioners under the tuberculin test. In the July issue appeared the majority and minority reports of the committee; the August number contained the reports of three of the five veterinarians employed as experts—Drs. Ernst, Smith and Kinnell; the September REVIEW printed the report of Dr. Billings, while this October number concludes the entire document with the findings of Dr. Charles R. Wood.

REPORT OF CHAS. R. WOOD, V. S.

LOWELL, MASS., May 6, 1897.

To the Honorable Committee of the Senate and House of Representatives, Commonwealth of Massachusetts.

GENTLEMEN:—In sending you my report of the examination of the cows killed by your order at the Brighton Abattoir, I will say that, of the number killed, a large percentage was so slightly affected with tuberculosis as to give one the impression that so much wanton destruction of meat was little less than farcical.

Any animal exhibiting tuberculosis to any marked extent without any question whatever should be destroyed, and the meat condemned as an article of food; but when the percentage of tuberculous matter is so small as to be determined only by the aid of a powerful microscope, the percentage of poisonous element must necessarily be very small, and the liability of

transmission to human beings when taken as an article of food must be very mythical.

However, from the standpoint of scientists it only requires the development of a very small nodule of tuberculous matter to impregnate the whole system. Be that as it may, meat impregnated with just such a poisonous element has for years been eaten without a great amount of damage being done in regard to the health of the people. On general principles, no one cares to partake of the meat of diseased cows when it can be avoided; and no doubt very stringent measures are taken to prevent such. We have ample evidence of that.

Of the 130 cows that were condemned and killed, and subjected to a rigid examination, not in a single instance was the udder found diseased, with the exception of the presence of garget (even when the deposits of tuberculous matter were quite large in other organs), showing that the danger from partaking of the milk from these cows was comparatively small.

Of the 20 cows killed and examined that did not react from the tuberculin test, 7 were found more or less diseased, showing beyond a possible doubt that the tuberculin test is not infallible, and that it does not determine, by reaction after being injected, the presence of tuberculous matter, as in many cows that did react, only developed the fact of a pus cavity existing in some part of the animal's anatomy, generally due to the presence of a foreign body, as in many cases were found nails and hay wire embedded in the walls of the large stomach. If by the injecting of tuberculin the percentage of tuberculous matter could be ascertained and located, it would be of immense value as an agent. The fact of several cows reacting after being tested with that, and on post-mortem examination no tuberculous matter found, only an abscess, shows that much is to be learned in regard to its use before it can be thoroughly relied upon. If it is an established fact, which I doubt very much, that cows affected with a very small percentage of tuberculous matter, which is not visible to the naked eye, can transmit the poisonous elements it contains to human beings when partaken of as food, then we shall have to eschew beef as an article of food, and submit to have all the cows destroyed and the carcasses converted into fertilizer.

Very respectfully yours,

CHAS. R. WOOD, V. S.

The following post-mortem findings accompany Dr. Wood's report:

Examination of Tuberculin-tested Cattle from Lowell at Brighton Abattoir, April 13, 14, 15 and 21.

Number of Examination.	Number of State Tag	Name of Owner.	Glands of Throat.	Lungs and Adjacent Glands.	Liver and Attached Glands.	Udder and Attached Glands.
1	10224	A. J. Thissell	Tuberculous	Glands tuberculous, lungs apparently not	Nothing found	Nothing found.
2	10203	" "	Nothing found	" " "	" "	" "
3	9622	C. E. Jones	" "	" " "	" "	" "
4	9697	Osborn Merrill	" "	" " "	" "	" "
5	10254	" "	" "	" " "	Several tuberculous nodes in substance of liver	" "
6	9677	" "	Tuberculous	" " "	Nothing found	" "
7	10214	" "	Nothing found	Glands tuberculous, several centres of disease in lungs	Several small nodes of tuberculosis in substance	" "
8	9693	C. E. Jones	Right gland tuberculous, left apparently not	Lungs and glands badly tuberculous.	" " "	" "
9	10261	Osborn Merrill	Nothing found	Glands tuberculous	" " "	" "
10*	—	—	—	—	—	—
11	9640	C. E. Jones	Nothing found	Glands tuberculous	Glands and liver tuberculous	Nothing found.
12	10234	Osborn Merrill	Tuberculous	Lungs and glands badly tuberculous.	Numerous tuberculous nodes in substance	" "
13	10237	" "	Nothing found	Lungs and glands tuberculous	Nothing found	" "
14	9667	" "	" "	" " "	Glands tuberculous, liver apparently not	" "
15	10288	" "	" "	" " "	Nothing found	" "
16	9630	" "	" "	Glands slightly tuberculous	" "	" "
17	9637	" "	" "	" " "	" "	" "
18	10262	" "	" "	" " "	" "	" "
19	10298	" "	" "	Glands tuberculous, one small node in lungs	" "	" "
20	9678	" "	One gland tuberculous, other apparently not	Scattered nodes in lungs, glands also tuberculous	" "	" "
21	9670	F. A. Fox	Nothing found	Glands tuberculous	" "	" "

18.....	10262	" "	" "	" " "	" "	" "	" "	
19.....	10298	" "	" "	Glands tuberculous, one small node in lungs.....	" "	" "	" "	
20.....	9678	" "	One gland tuberculous, other apparently not	Scattered nodes in lungs, glands also tuberculous.....	" "	" "	" "	
21.....	9670	F. A. Fox.....	Nothing found.....	Glands tuberculous.....	" "	" "	" "	
22.....	9681	" "	" "	Lungs and glands tuberculous. ...	" "	" "	" "	
23.....	9639	" "	" "	" " "	" "	" "	" "	
24.....	9662	" "	Tuberculous.....	" " "	" "	" "	" "	
25.....	9679	" "	Nothing found.....	Glands only tuberculous.....	" "	" "	" "	
26.....	9671	" "	Tuberculous.....	Large centres of tuberculosis in lungs, glands also.....	" "	" "	" "	
27.....	9634	Osborn Merrill..	Nothing found.....	Glands tuberculous.....	" "	" "	" "	
28.....	9675	F. A. Fox.....	Tuberculous.....	Lungs and glands tuberculous.....	" "	" "	" "	
29.....	9695	" "	"	" " "	" "	" "	" "	
30.....	9645	Osborn Merrill..	Nothing found.....	Glands tuberculous...	" "	" "	" "	
31.....	9673	F. A. Fox.....	" "	Glands and one lung slightly tuberculous, other lung nothing found.	" "	" "	" "	
32.....	9631	" "	Tuberculous.....	Small node in one lung, gland tuberculous.....	" "	" "	" "	
33.....	9611	" "	Nothing found.....	Nodules in both lungs, glands also tuberculous.....	" "	" "	" "	
34.....	9615	" "	" "	Node in one lung, glands tuberculous.....	" "	" "	" "	
35.....	9674	" "	" "	Glands tuberculous.....	" "	" "	" "	
36.....	9646	" "	Tuberculous.....	Nodes in both lungs, glands also tuberculous.....	" "	" "	" "	
37.....	9614	" "	Nothing found.....	Glands and portion of right lung tuberculous.....	" "	" "	" "	
38.....	10284	Osborn Merrill..	Tuberculous.....	Glands and portion of left lung tuberculous.....	" "	" "	" "	
39.....	9601	F. A. Fox.....	Nothing found	Glands and portion of right lung tuberculous.....	" "	" "	" "	
40.....	9626	Osborn Merrill..	" "	Both lungs and glands slightly tuberculous.....	" "	" "	" "	
41.....	10289	" " ...	" "	Nodes and cheesy abscess in right lung, glands tuberculous.....	" "	" "	" "	

* Did not belong to this lot. Hay wire in stomach, penetrating organs of chest and causing serious disturbance. No tuberculin reaction.

Examination of Tuberculin-tested Cattle, etc.—Continued.

Number of Examination.	Number of State Tag.	Name of Owner.	Glands of Throat.	Lungs and Adjacent Glands.	Liver and Attached Glands.	Udder and Attached Glands.
42	10264	N. L. Peavy	Nothing found	Nothing found	Small centre of tuberculosis in one of the glands	Nothing found.
43	9659	C. E. Jones	" "	One node, as big as a walnut, of tuberculosis in right lung	Nothing found	" "
44	9683	" "	" "	Glands tuberculous	" "	" "
45	10287	Osborn Merrill	Tuberculous	Glands badly tuberculous, small centre in left lung	One gland on liver tuberculous	" "
46	9608	F. A. Fox	Nothing found	Tubercular abscess in left lung, small centre in right	Nothing found	" "
47	9617	C. E. Jones	" "	Glands tuberculous, left lung slightly so	" "	" "
48*	9629	F. A. Fox	" "	Nothing found	" "	" "
49	10231	Osborn Merrill	" "	Small node in left lung, glands tuberculous	" "	" "
50	9620	C. E. Jones	" "	Nodes of tuberculosis in right lung	" "	" "
51	10293	Osborn Merrill	" "	Gland slightly tuberculous, one centre of tuberculosis in right lung	" "	" "
52	9689	F. A. Fox	" "	Glands and both lungs badly tuberculous	" "	" "
53	9609	" "	" "	Nodes in each lung, glands tuberculous	" "	" "
54	10232	Osborn Merrill	Tuberculous	Node in both lungs, glands tuberculous	" "	" "
55	9621	" "	Nothing found	Glands only	" "	" "
56	9613	C. E. Jones	" "	Two small centres in left lung	" "	" "
57	10243	Osborn Merrill	" "	Glands tuberculous, one centre in right lobe	" "	" "
58	10285	" "	Tuberculous	Glands and lungs tuberculous	" "	" "
59	9665	F. A. Fox	Nothing found	" " "	" "	" "
60	9638	" "	" "	" " "	" "	" "
61	9660	" "	" "	Glands only	" "	" "
62	9656	" "	" "	Glands, and nodes in one lung	" "	" "
63	9666	" "	" "	Lungs and glands tuberculous	" "	" "
64	9682	C. E. Jones	Tuberculous	Glands and one lung tuberculous	" "	" "
65	9605	F. A. Fox	"	Glands and both lungs tuberculous	" "	" "

58	10285	" "	Tuberculous	Glands and lungs tuberculous	" "	"	"
59	9665	F. A. Fox	Nothing found	" " "	" "	"	"
60	9638	" "	" "	" " "	" "	"	"
61	9660	" "	" "	Glands only	" "	"	"
62	9656	" "	" "	Glands, and nodes in one lung	" "	"	"
63	9666	" "	" "	Lungs and glands tuberculous	" "	"	"
64	9682	C. E. Jones	Tuberculous	Glands and one lung tuberculous	" "	"	"
65	9605	F. A. Fox	"	Glands and both lungs tuberculous	" "	"	"
66	9658	Osborn Merrill	One gland tuberculous	" " " "	One of the glands tuberculous	"	"
67	9625	F. A. Fox	Nothing found	One or two tubercles in one gland	Nothing found	"	"
68	9603	" "	" "	Very slight tuberculosis in two glands	" "	"	"
69	9619	" "	" "	Glands only, and slight	Abscess in liver, not surely tuberculosis, glands slightly tuberculous	"	"
70	9607	" "	" "	Glands tuberculous	Nothing found	"	"
71	9618	" "	" "	Lungs and glands tuberculous	" "	"	"
72	9604	" "	" "	Glands only	" "	"	"
73†	9612	C. E. Jones	" "	Nothing found	" "	"	"
74	9660	F. A. Fox	Tuberculous	Lungs and glands tuberculous	" "	"	"
75	9684	" "	"	One lung and the glands tuberculous	" "	"	"
76	10300	N. L. Peavy	Nothing found	Lungs and glands tuberculous	" "	"	"
77	9650	F. A. Fox	" "	" " "	" "	"	"
78	9657	" "	" "	Glands only	" "	"	"
79	9668	" "	" "	Lungs and glands tuberculous	" "	"	"
80	9672	" "	" "	" " "	" "	"	"
81	9635	" "	Tuberculous	" " "	" "	"	"
82	9624	" "	Nothing found	" " "	" "	"	"
83	9627	" "	" "	" " "	Probably a tuberculous abscess	"	"
84	9606	" "	" "	" " "	Tuberculous abscess in liver	"	"
85	9652	" "	" "	Lungs and glands excessively tuberculous	Nothing found	"	"
86	9700	" "	" "	Both lungs and glands tuberculous	" "	"	"
87	9676	" "	" "	Glands only	" "	"	"
88	9669	" "	Tuberculous	" "	Tubercular node in liver	"	"

* A good-sized tuberculosis centre at left stifle-joint.

† Dr. Ernst took specimens for microscopic examination.

Examination of Tuberculin-tested Cattle, etc.—Concluded.

Number of Examination.	Number of State Tag.	Name of Owner.	Glands of Throat.	Lungs and Adjacent Glands.	Liver and Attached Glands.	Udder and Attached Glands.
89.....	9602	F. A. Fox.....	Tuberculous.....	Glands and lungs tuberculous.....	Nothing found.....	Nothing found.
90.....	10266	Osborn Merrill..	"	Glands only.....	" "	" "
91.....	9685	R. S. Fox.....	Nothing found.....	Nothing found.....	Questionable; a peculiar abscess in liver.	" "
92.....	10222	E. T. Fox.....	" "	One small tubercle in one gland...	Nothing found.....	" "
93.....	9632	R. S. Fox.....	" "	" " " " ...	" "	" "
94.....	9680	" "	" "	Glands tuberculous, one node in lungs.....	" "	" "
95.....	9628	" "	" "	Glands slightly tuberculous.....	" "	" "
96.....	9644	" "	" "	Glands and lungs tuberculous. ...	" "	" "
97.....	9692	" "	Tuberculous.....	" " "	Glands of liver, also abscess in liver, tuberculous.....	" "
98.....	10238	F. P. Fox.....	Badly tuberculous..	" " "	Glands tuberculous, numerous nodes in liver.....	" "
99.....	9691	R. S. Fox.....	One gland tuberculous	Glands slightly tuberculous.....	Nothing found.....	" "
100.....	10256	E. F. Fox.....	Nothing found.....	Glands and lungs.....	Crural gland; also tuberculous gland...	Glands tuberculous.
101.....	10269	D. S. Fox.....	Tuberculous.....	Lungs and glands badly tuberculous.	Mesenteric glands tuberculous, nothing found.....	Nothing found.
102.....	9664	R. S. Fox.....	Nothing found.....	Glands slightly tuberculous.....	Nothing found.....	" "
103.....	9663	" "	" "	Glands slightly tuberculous, abscess in right lung.....	" "	" "
104.....	10294	F. P. Fox.....	Tuberculous.....	Glands bad.....	Mesenteric glands tuberculous.....	" "
105.....	10259	" "	Nothing found.....	Glands only	" " "	" "
106.....	10271	Mr. Brown.. ...	One maxillary and one parotid gland.	" "	Nothing found.....	" "
107.....	10213	D. S. Fox.....	Nothing found.....	Glands slightly tuberculous.....	" "	" "
108.....	10218	F. P. Fox.....	" "	Glands and lungs tuberculous.....	" "	" "
109.....	9693	R. S. Fox.....	Tuberculous.....	Nothing found.....	" "	" "
110.....	10221	E. T. Fox.... .	Nothing found.. ...	One gland only, and very slightly tuberculous.....	" "	" "
111.	10208	D. S. Fox.....	" "	" " "	" "	" "
112	10230	E. T. Fox	" "	Glands only	" "	" "

106	10271	Mr. Brown	One maxillary and one parotid gland	" "	Nothing found	" "
107	10213	D. S. Fox	Nothing found	Glands slightly tuberculous	" "	" "
108	10218	F. P. Fox	" "	Glands and lungs tuberculous	" "	" "
109	9693	R. S. Fox	Tuberculous	Nothing found	" "	" "
110	10221	E. T. Fox	Nothing found	One gland only, and very slightly tuberculous	" "	" "
111	10208	D. S. Fox	" "	" " "	" "	" "
112	10239	E. T. Fox	" "	Glands only	" "	" "
113	9643	R. S. Fox	Tuberculous	Glands and lungs	" "	" "
114	9687	" "	Nothing found	One gland	Glands tuberculous	" "
115	10270	D. S. Fox	Tuberculous	Glands and lungs	Nothing found	" "
116*	10265	F. T. Fox	Nothing found	" "	" "	" "
117	10217	" "	" "	Glands only	Mesenteric glands	" "
118	9623	R. S. Fox	" "	Tuberculosis in glands and lungs	Nothing found	" "
119	9698	" "	" "	Badly tuberculous, grapes all over lungs also	Glands and liver	" "
120	10277	E. T. Fox	" "	Glands slightly	Nothing found	" "
121	10226	" "	" "	One tubercle in axillary gland	" "	" "
122	9610	R. S. Fox	" "	Nothing found	" "	" "
123	10219	D. S. Fox	" "	Glands only	" "	" "
124	9688	R. S. Fox	" "	Nothing found	" "	Glands of udder slightly tuberculous
125	9655	" "	" "	Glands only	" "	Nothing found.
126	9616	" "	" "	Glands and lungs	" "	" "
127	10279	E. T. Fox	" "	" "	" "	" "
128	9633	R. S. Fox	Tuberculous,	Nothing found	Mesenteric glands	" "
129	10263	E. T. Fox	Nothing found	One gland only	Nothing found	" "
130	9654	R. S. Fox	Tuberculous	Glands and lungs	" "	" "

* Calf.

Examination of Twenty Cows from Lowell and Vicinity, belonging to Various Herds that did not react to the Tuberculin, Brighton Abattoir, May 4, 1897.

Number of Examination.	Number of State Tag.	Name of Owner	Glands of Throat.	Lungs and Adjacent Glands.	Liver and Attached Glands.	Udder and Attached Glands.
1	9103	Mr. Thissell	Nothing found	Nothing found	Nothing found	Nothing found.
2	9145	Mr. Jones	" "	Glands tuberculous	" "	" "
3	9132	Mr. Merrill	" "	" "	" "	" "
4	9158	Mr. Thissell	" "	Nothing found	" "	" "
5	6576	Mr. Merrill	" "	" "	" "	" "
6	9137	Mr. Fox	" "	" "	" "	" "
7	9117	Mr. Thissell	" "	" "	" "	" "
8	9194	" "	" "	" "	" "	" "
9	6524	Mr. Jones	" "	" "	" "	" "
10	6558	Mr. Thissell	" "	" "	" "	" "
11	9184	Mr. Fox	" "	" "	" "	" "
12	9101	" "	" "	" "	" "	" "
13	6530	Mr. Thissell	" "	Diseased liver	" "	" "
14	9162	Mr. Jones	" "	Glands and node in one lung	" "	" "
15	9173	Mr. Merrill	" "	One tubercle in bronchial gland	" "	" "
16	9167	Mr. Thissell	" "	Nothing found	" "	" "
17	9119	Mr. Jones	" "	One tubercle in bronchial gland	" "	" "
18	9104	Mr. Thissell	" "	Bronchial and mesenteric glands	" "	" "
19	9176	Mr. Jones	" "	Nothing found	" "	" "
20	6587	Mr. Merrill	" "	Bronchial and mesenteric glands	" "	" "

EXTRACTS FROM EXCHANGES.

FRENCH REVIEW.

INTESTINAL PERFORATION IN A MULE—ABDOMINAL ABSCESSES—SPLENIC HÆMORRHAGE—PERITONITIS.—How true the author was when he wrote: "So much was not necessary to kill the poor animal." Mr. Piot Bey relates that the animal was shown to him because of its having been affected with light colics for six or seven days back. At his visit he finds the animal very sick with symptoms of abdominal trouble; orders her to be taken back to her stable, where she lies down and dies in the afternoon. At the post-mortem extensive lesions of various natures are found. On opening the abdomen, marks of extensive peritonitis are found (abundant collection of bloody serosity, coloration of the intestines, engorged condition of the peritoneum). At the sternal curvature the colon is adherent to the median line near the xyphoid cartilage, and there is found an abscess as big as an egg, containing a pus similar to that found in strangles. Through the folds of the great omentum, another of the same size and nature is also opened. The spleen presents on its internal surface a projecting nodosity, covered with a clot of blood, intimately united to the organ; the removal of this clot exposes a straight laceration of the splenic capsula. This nodosity extends into the spleen, and is in continuation with its intimate structure. On the small intestine there is an almost straight perforation, some three centimetres long, with edges ragged, ecchymosed, ulcerated (evidently an *ante-mortem* lesion). The other organs were comparatively healthy. While the author is satisfied to attribute the abscesses to a gourmy diathesis, he is at a loss to explain the lesions of the spleen or those of the intestines.—(*Rec. de Med. Vet.*)

STRANGULATION OF THE INTESTINES BY THE PEDUNCLE OF A LIPOMA.—The presence of lipomas in the abdominal cavity, attached on the peritoneal folds of the mesentery, is well known, and many have been found at post-mortems of animals where they had remained harmless. But unfrequently also they are the cause of severe alterations in the situation of abdominal organs and give rise to serious or even fatal results. MM. Rochard, Durand and Magnin report, in the *Recueil de Med. Vet.*, the case of a 16-year-old gelding, which was taken with colics, and, notwithstanding treatment, died in a few hours. At the post-mortem they found on the mesentery at about 6 metres (say 18

feet) from the pylorus, near the small curvature of the intestine, a small lipoma (weighing 75 grammes—two ounces and a half), supported by a peduncle, 10 centimetres long, and which had rolled round a loop of intestines, 35 centimetres long, and strangulated. The strangulation was so severe that it had made a deep mark on the intestinal surface. The tumor was formed by a mass of soft fat enclosed in an envelope from the mesentery; the peduncle was made of the same peritoneal structure with a few streaks of connective tissue.

ACCIDENTAL LACERATION OF THE ŒSOPHAGUS [*By M. Caron*].—A mule presented at the morning inspection an œdematous swelling, warm, but not very painful, under the breast and extending back near the middle of the sternum. In the afternoon he discharges very freely from both nostrils. The next day he is in about the same condition, but exhales an infectious odor, his nostrils are covered with the discharge, his breath is fœtid, a small tumor has formed on the middle of the left jugular groove, the œdema of the breast has extended somewhat upwards, no appetite, excessive thirst. The following day the small tumor of the neck has increased. At a point where fluctuation was perceptible the mortified skin breaks and permits the escape of excessively fœtid gas. A puncture causes a flow of purulent serosity of a repulsive odor. No change for twelve hours, when at last at the bottom of the wound is observed an opening through the œsophagus, probably due to the deglutition of a sharp thorn concealed in the hay; this has pierced the œsophagus, permitted the introduction of food and liquids into the cellular tissue and into the muscles; then formation of the abscess, expulsion of the thorn (the cause of all the trouble), and then gradual return to health. During the whole disease the treatment was of an expectant nature, deodorizing and antiseptic; and also after, when the positive diagnosis had been made by the discovery of the lesion of the œsophagus.—(*Rec. de Med. Vet.*)

PICRIC ACID AS A DRESSING FOR WOUNDS [*By MM. Deysine and Vairon*].—These veterinarians have given picric acid a trial in the dressing of wounds and have obtained excellent results with it, which they consider as endowed with three principal qualities: antiseptic, stimulant of keratogenous action and analgesic. They have used a solution made of 10 grammes of picric acid, 50 grammes of alcohol at 65°, 1000 grammes of water. The alcohol facilitates the washing off of the yellow coloration which remains on the tissues or on the hands of the

operator. They have obtained excellent and rapid success in the treatment of stickfasts of the back, of the withers or of the ribs. The wounds of the superior border of the neck were slower to heal, probably on account of the difficulty in adapting the pressure, but in the treatment of scratches at the fold of the coronet, or of burns, either of the sole of the foot or of the skin, the results were very satisfactory. The dressing is very simple; a small pad of sterilized cotton, dipped first in the solution and then squeezed out, is applied directly on the wound; a second pad is placed over it and completes the dressing, which is held in place by bandage, surcingle or any adhesive apparatus.—(*Rec. de Med. Vet.*)

CHRONIC AMAUROSIS AND TEMPORARY EPISTAXIS.—These are recorded by Mr. Loriot, in the *Recueil de Med. Vet.*, as complications that he has met with in a case of jaundice of the horse. This animal had presented all the symptoms of that disease, and as he began to recover was taken with an abundant epistaxis, which seemed to be the last evolution of the disease, as the animal soon appeared to be in perfect health, with the exception of the peculiarity of his movements, which were those of a blind horse. And blind he was. There was a well marked amaurosis of both eyes, which, notwithstanding a treatment well prescribed, remained permanent, and was still present several months after his attack of jaundice. This is certainly a complication worth noticing and deserving of record.

RUPTURE OF THE INTERNAL INSERTION OF THE CAP OF THE PERFORATUS AND LUXATION OF THE TENDON ON THE EXTERNAL FACE OF THE HOCK.—Lesions of this nature are rare, and but few have recorded them in veterinary journals. This case has, therefore, a great interest, and is related by Mr. Jobelot in the *Rec. de Med. Vet.* After a steeplechase run Quartier, a thoroughbred, is pulled up very lame on the right hind leg. The hock is very much swollen, the leg moves all in one piece, without flexion, the animal rests on his toe. Continued irrigation, then blistering gave some relief; by degrees the lameness diminished, and as the swelling seemed to remain, rest and douches repeated during the day were prescribed. A month later the animal was comparatively free from lameness, and as the inflammatory swelling had subsided, the following conditions were observed: "Above the os calcis, the cord of the hock is larger than normal and keeps enlarging until the cap at the os calcis. There this cap is half way deviated outwards; it is twice its ordinary size and forms a quite regularly oval, thick

and indurated swelling. This deviation permits the tracing of the clean tendon of the gastrocnemius down to its insertion. The perforatus alone is thickened. To the left of the tendinous cap, the os calcis is much enlarged, with the fibrous cord of the displaced perforatus on its external face. Immediately below the cap of the perforatus, the tendon is clean and of ordinary size; but farther down, at the lower part of the hock, it is thick, tumefied, and globular. The deviations of the tendon exist as far as the lower third of the cannon and from the hock to that point the two tendons are traced side by side of each other. A little above the fetlock, the perforatus resumes its normal situation. Besides these principal lesions, there were other secondary ones: a large tendinous thoroughpin on each side of the cord of the hock and a synovial tumor, produced by the distension of the inferior *cul-de-sac* of the tarsal tendinous synovial. There is no capped hock, but a little below the head of the os calcis, there is a fourth synovial dilatation." Notwithstanding all these lesions and their serious nature, Quartier resumed his work after three months entirely free from lameness.

ENGLISH REVIEW.

CANINE PATHOLOGY.

HERNIA IN DOGS [*By W. Paner, M. R. C. V. S.*].—This interesting subject receives at the hands of the author three additional instances, which add much to the history of hernia. The first is that of a three months old pup, having a congenital *umbilical* hernia, which had become as large as a walnut. The treatment consisted in the application of a tampon of tow, held in position by strips of adhesive plaster. The little fellow was fed heavily; as he was a gluttonous eater, his abdomen was constantly more or less distended and by this the pressure of the tampon held the hernia in place. In six weeks the cure was radical. . . . The second is that of a bitch which had an *inguinal* hernia, so large that it trailed on the ground and interfered with the walking of the animal. The hernia was reduced, the skin carefully divided, and separated from the peritoneum. The serous sac was ligated close to the inguinal ring and cut off. A large piece of skin was removed and the incision closed tight by interrupted sutures. The recovery was complete in a month. . . . The third case was not so successful. A fox hound had been fighting and was badly bitten; he had a bad *abdominal* hernia forming a tumor as big as the fist.

While he was under the influence of chloroform, the skin was incised, exposing the abdominal walls torn and the abdominal contents were found forming the mass, black and surrounded by clotted blood. Portions of the peritoneum and omentum were excised, the peritoneal edges brought together with fine carbolized cat-gut sutures and afterwards the abdominal muscles, then the skin. On the outside boracic acid and iodoform, with gauze, kept the wound antiseptic. The patient was fed with essence of beef and did well at first, but towards the ninth day he showed signs of pneumonia, and died on the tenth. The lesions were those of infectious pneumonia. Under the skin the whole body was black and covered with numerous little abscesses. The wound of the operation was doing well.—(*Veterinary Record.*)

NEEDLE IN THE ŒSOPHAGUS OF A DOG.–It is well known that young dogs frequently suffer from the presence of foreign bodies in the œsophagus. Mr. A. H. Clapp has had occasion to remove from one of them a needle which he had swallowed and which had lodged in his throat, giving rise to bloody vomiting, inability to swallow and frequent attempts at deglutition. On the left side of the throat, a little below the jaw, a slight projection could be detected, which was painful on pressure. With the use of cocaine, an incision was made over the skin of the projecting part, and on feeling with the finger, a sharp projection was felt, which being cut upon proved to be a needle, which was extracted with a pair of forceps, drawing along several inches of cotton, tied with a large knot.—(*Veterinary Record.*)

TWO CASES OF ORCHITIS IN THE DOG.—In the *Veterinary Record* Mr. G. Mayal, M. R. C. V. S., records two cases of this affection, which is not common, taking into consideration the exposed position of these organs to blows or external violence. One of them had both testicles affected, the other only one. With both animals, though of variable degree, the symptoms were the same, viz.: Staggering gait, inability or disinclination to cock the leg when micturating, dragging of the hind legs, testicles swollen and painful to the touch. In one animal the temperature rose to 105°. The treatment consisted in laxatives, fomentations three or four times a day, and belladonna liniment, and between the fomentations bags of ice. Internally the animals received iodide of potassium and liquor arsenicalis. In the one which was less affected, instead of ice bags a liniment of aconite, chlorhydate of ammonia and nitrate of potassium was used externally. This last dog made a good recovery in a

fortnight. The other lingered longer and finally was destroyed.

OVARIOTOMY AND VAGINAL TUMORS.—Referring to suggestions made by the author of several cases of vaginal tumors, recorded in the *Vet. Record*, viz.: the propriety of performing ovariotomy with sluts thus affected, Prof. Hobday of London rather endorses the idea and relates three cases where he had applied the treatment—that is, performing ovariotomy, and according to indications leaving the vaginal tumor alone or interfering with it by extirpation and curettage. In a first successful case, the uterine papilloma was removed and did not return. In a second the growth was left untouched; the animal had to be destroyed. In a third case the ulcerating papilloma was removed with a curette, had a slight tendency to return and was curetted a second time, since which the animal is well. Ovariotomy had been performed in all three. The indications of this are based upon the fact that during œstrum "the bitch is constantly rubbing her hind parts against various objects, the tumors (if present) are more vascular, receive injury and bleed freely; the offensive blood-stained discharge, too, is increased in amount and the tumor appears to grow more rapidly at these times. By ovariotomy the cause of this is removed."

ROUMANIAN REVIEW.

SOME RESEARCHES IN URETHANE.—This preparation (ethylic ether of carbamic acid) has been the object of experiments made by Dr. Dumibresku, who arrives at the following conclusions: (1) In dogs, and according to the dose given it produces hypnosis more or less profound and lasting; (2) it produces it also by intravenous injections; (3) the drug has no action on circulation, but lowers the temperature, reduces the respirations and stimulates urinary secretion; (4) it has no action on the pupil; (5) its action does not last long; (6) it does not give rise to any gastro-intestinal irritation in small doses, and in hypodermic injections gives rise to subcutaneous abscesses and irritates the digestive and respiratory mucous membranes; in veins, even concentrated solutions produce no bad effect; (7) the best way to administer it is per mouth, but when given in an intoxication by strychnia, subcutaneous or intravenous injections are better; (8) it is the most efficacious physiological antidote of strychnia; large doses will remove

the toxic effects of a dose of strychnia, three times mortal. The doses are: as hypnotic, to large dogs, from 5 to 20 grammes, to small, 2.50 to 05 grammes; in strychnia poisoning, give subcutaneously; by the veins, 1 gramme. Urethane is indicated in nervous diseases characterized by great irritability and hyperexcitability.—(*Revista de Medic. Veter. Bukarest.*)

MUSCULAR ATROPHY AND ARTICULAR PAINS.—In the same review, Mr. Furtuna calls attention to the fact that muscular atrophies are often sequelæ of arthritis, having a rapid evolution, and that not uncommonly the attention is directed towards the joint, which is submitted to liniment, blisters, etc., with no benefit to the patient, while the condition of the muscles, the true cause of the lameness, is overlooked. And if soreness is sometimes detected around the joint, possibly the result of some slight sprain, these are due to the atony of the atrophied muscles, which permits of excessive articular motions, and hence to pulling and tearing of articular ligaments. Mr. Furtuna recommends always a careful attention to the muscular condition, and in case of atrophy recommends galvanic and faradic electricity, subcutaneous injections of arsenate of strychnia, and among some twenty cases he has treated he claims he has always obtained good results.

CORRESPONDENCE.

DOCKING HORSES FOR FASHION'S SAKE.

Editors American Veterinary Review:

I have read with satisfaction the editorial in your last issue condemning "the amputation of the horse's tail for fashion's sake." Some time ago, while connected with the Humane Society in Chicago, I was several times forced to take a public stand in this matter against some veterinarians, and presumably this is the reason why I am now accused of the authorship of this article. While I disclaim any connection with it whatever, yet I am heartily in sympathy with its general tenor and shall use this opportunity to set myself right upon this question.

The cause for the article was the report that the Lancashire (England) Veterinary Association passed a resolution declaring "the docking of horses as a necessary operation," and the reviewer justly and indignantly concludes "that such a resolution would never receive the endorsement of an American association." In this he is correct, because we have already recorded

in the annals of the U. S. V. M. Association such a resolution declaring the docking of horses as an unnecessary operation. It was passed a few years ago at the Philadelphia meeting, and while the discussion on the subject was rather forcibly shortened, there was evidence of some very positive opinions, which should have had a more liberal hearing. Docking has not been stopped by this resolution, nor will it ever be stopped by any law or other proceeding than the honest refusal of veterinarians to further perform this operation.

It is generally believed that docking of horses is an English fashion. It is certain that, with the exception of France, where at times it was also practised quite extensively, it is practically unknown on the continent of Europe. In the large cities of Germany, Austria, Russia, countries which each produce excellent breeds of carriage and saddle-horses, one never sees a docked horse except in steeple-chases, where the imported English or Irish hunter figures prominently beside the domestic jumper who invariably wears a banged tail. In America the fashion was slow to get a foothold, but once introduced was likely to be overdone. Even in England only certain classes of horses are docked, hunters, park-hacks and coachers, many of them remaining the caressed property of their wealthy owners until death by old age. But in America many thousands of horses are now annually docked, of whom only comparatively few are fit for the above purposes. Yet they are "fixed up for the trade" by being docked, and having their bushy manes and fetlocks thinned and trimmed. By chance or from ignorance of buyers many of these horses sell for carriage horses or as "English walk-trot-canter" saddlers. After a period of trial they prove their unfitness, and, partly or totally ruined, are sold in disgust by their duped owners. Then we recognize these horses again on delivery wagons, depot-hacks, peddlers' wagons, or at other employments which do not allow that care which a docked horse should receive.

For us as veterinarians it would be unseemly to fall into sentimental clamors as is done by professional humanitarians, but as the operation of docking is mostly performed by veterinary practitioners it is one of our duties to calmly investigate the question from the scientific and ethic standpoints.

"Doctors disagree," and veterinarians do not always agree. Of course, we want different opinions, for through them we approach truth the nearest. A prominent veterinarian of Chicago bluntly confesses that "*he believes the operation of*

docking to be justified because it increases the value of the horse." Surely a most remarkable theory! But this belief is natural to him, he is a veterinary materialist, a utilitarian who thinks not that the horse is endowed with the same organs of life that were given to him; he regards the horse as an automaton, an article of commerce, a commodity exchangeable for money. But withal I respect this man for the originality of his thought and the straightforwardness of his words. Other veterinarians, however, will admit that docking is cruel, that it is an ugly fashion, that it is an unlawful operation. Yet they argue that they must comply to the demand of their clients, and thus they operate—behind closed doors. Shame to these cowardly heroes who in the slavish subjugation to the dollar outrage their manliness and righteousness. It is absurd to maintain that we cannot refuse this operation, for I know of colleagues that have done so time and again without derogatory results to their "business." Even to persons who have only a commercial conception of our profession, the law alone grants sufficient cause for refusal, for no man is expected to perpetrate an unlawful act.

I will not enter to-day into details of the scientific aspect of docking. Whether the operation in itself is cruel or not may be decided differently by courts; the main issue remains that it is cruel in its effects. It has also been argued that the skin of the horse is supplied with particular muscles to ward off insects. This is only partly true, for no veterinary anatomist has as yet detected them on the hindquarters, and a docked tail is too short to switch over this region. This proposition would rather favor the banged tail and should meet the objection of those who consider a long tail a "nuisance." Others have classified docking with the "economic" operations like castration and dehorning, but as its effect is not beneficial but deleterious it cannot be economic. Look at it in whatever light you want the fact remains that docking is an unnecessary operation, and as it is cruel besides it has been made unlawful with perfect propriety.

From all these reasons I maintain that it is a breach of ethics to perform this operation. The statutes of our veterinary associations are full of a lot of things that we shall not do—towards our fellow practitioners. Yet this is only the teaching of ethical conduct towards ourselves. But there is also an ethical conduct towards our animal patients; in fact, there exists what may be called "ethics of *veterinary* work." The ideal aim of veterinary medicine is to restore to health diseased animals, to relieve

suffering, to lessen pain, and to shorten agony. This is just as beneficent a mission as that of human medicine. When we undertake to perform an operation that unnecessarily produces pain, or entails prolonged suffering, we act in offense of the objects of our humane work and defraud our science of its true and ethical destination. The above premises granted as correct —and they cannot be proven as wrong—no objection can be raised to the conclusion that a veterinarian who cuts off a horse's tail for fashion's sake may be cited before his association upon a breach of ethics. If nothing else, I hope to show by this argument how mean an act "docking" really is, in the light of a little straight thinking and honest reflection.

In regard to the expression of opinion by our English cousins, if it can be taken as the prevailing sentiment, it indicates a degeneration of professional morality. It has not always been that way in England. Queen Victoria herself has never allowed a docked horse in her carriages or in her stables, and there are many noble-minded Britons who have followed her example. But, above all, it seems difficult to perceive how such rough opinion could spring from the land of George Fleming, this honorable veterinarian, this sympathetic writer, whose teachings are impregnated with the deepest and purest humanity towards the horse.

OLOF SCHWARZKOPF.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The thirty-fourth annual meeting of this association convened in the assembly room of the Tulane Hotel, Nashville, Tenn., on Tuesday, September 7th, at 10 A. M., with President Frederick H. Osgood in the chair, who introduced Rev. Dr. W. T. Haggard, who, on behalf of the Mayor of the city, welcomed the veterinarians in a neat and hearty speech, after which Hon. John J. McCann very cordially and wittily bid the members welcome in the name of the Governor of Tennessee and the President of the Centennial Exposition. He also announced that he would take the attending ladies in charge, and convey them through the Exposition, which was accomplished to their infinite delight, the expedition including a sumptuous luncheon at the Casino, in the Fair Grounds.

Prof. Leonard Pearson responded on behalf of the association

in that happy strain which is his own, bringing out in the course of his remarks some very convincing arguments in favor of the extension of veterinary medicine in the Southern country.

President Osgood then delivered his annual address, which was listened to with marked attention, as it contained many suggestions looking toward the interests, extending the usefulness, and bringing the association closer to the hearts of its members. He commended the custom in the association of having the President's address delivered at the session following election, as any extemporaneous remarks made at the moment of the announcement of the balloting and in the excitement which such occasions produce, cannot be of the value and interest possessed by those which are the subject of earnest deliberation and assiduous study of the needs of the profession and its general welfare. He drew the attention of members to the dangers to the membership numerically on account of the inability of many to be present at the annual conventions, and their non-participation in the affairs of the association, which was calculated to cause them to lose interest in its deliberations. He thought that every member in good standing should have a voice in its affairs—especially a vote in the election of officers. He proposed that a nominating committee should place a number of candidates in the field and every member have the right to vote by mail for his choice. The selection would then be the voice of the entire membership and not of the comparatively few who are able to be present. It would stimulate interest, it would make each man feel that he had a voice in the management of the affairs of the association. He dwelt at length upon the difficulty that was being experienced in collecting the annual dues, believing that the chief obstacles lie in the extreme financial depression of the average veterinarian, who has been and is bearing his proportion of the general lassitude of business, and the fact that the annual dues are too exorbitant. It was shown by the records that more money could be collected where the dues are $3.00 than if $5.00, and the burden upon the members would be considerably lightened, while it would bring beneath its influence a much larger proportion of the veterinarians of the country. The chief expenditures of the association are for printing the "Proceedings," and the salary and expenses of the Secretary, and it was clearly shown that the amount secured at the reduced figure would be quite sufficient for all purposes—the estimate of expenses has been about $1150 per

year. He touched upon the suggestion to change the name of the association to the "American Veterinary Medical Association," or other name which will permit its membership to include all the countries of North America. The subject of reciprocity between State Boards of Veterinary Medical Examiners was considered at length and heartly endorsed, which added considerable stimulus to its discussion before the Faculties, and an informal meeting of members of such boards was held in the evening. Cognizance of the appropriation of money by certain States for the investigation of animal diseases was taken, and the extension of such acts commended in every State. The Bureau of Animal Industry, and the State Experiment Stations received commendable allusion. The address concluded with a conservative *résumé* of the status of the profession throughout the country, the reasons which have depressed it, and the hopes and causes of its revival.

The calling of the roll was dispensed with and the attendance determined by circulating lists each day for the signatures of those present. From these lists the following members were found to be present at the various sessions:

E. B. Ackerman, Brooklyn, N. Y.; A. H. Baker, Chicago, Ill.; Roscoe R. Bell, Brooklyn, N. Y.; Robert H. Bird, Helena, Mont.; Tait S. Butler, Starkville, Miss.; C. A. Cary, Auburn, Ala.; A. W. Clement, Baltimore, Md.; J.W. Connoway, Columbia, Mo.; T. Bent Cotton, Mount Vernon, O.; W. H. Dalrymple, Baton Rouge, La.; Charles Ellis, St. Louis, Mo.; H. D. Gill, New York, N. Y.; J. O. Greeson, Kokomo, Md.; T. D. Hinebauch, Fargo, N. D.; Nelson P. Hinkley, Buffalo, N. Y.; W. H. Hoskins, Philadelphia, Pa.; William Henry Kelly, Albany, N.Y.; James Law, Ithaca, N. Y.; William Herbert Lowe, Paterson, N. J.; H. M. McKillip, Chicago, Ill.; J. C. Meyer, Jr., Cincinnati, O.; S. B. Nelson, Pullman, Wash.; E. P. Niles, Blacksburg, Va.; W. B. Niles, Ames, Ia.; F. H. Osgood, Boston, Mass.; John M. Parker, Boston, Mass.; T. A. Peters, Lincoln, Neb.; Leonard Pearson, Philadelphia, Pa.; T. B. Pote, Terre Haute, Ind.; W. C. Rayen, Nashville, Tenn.; J. B. Rayner, Westchester, Pa.; T. B. Rayner, Chestnut Hill, Pa.; D. E. Salmon, Washington, D. C.; J. W. Schiebler, Memphis, Tenn.; F. S. Schoenleber, Chicago, Ill.; E. H. Shepard, Cleveland, O.; M. Stalker, Ames, Ia.; S. Stewart, Kansas City, Kan.; A. S. Wheeler, Biltmore, N. C.; T. E. White, Columbia, Mo.; W. L. Williams, Ithaca, N. Y.; J. F. Winchester, Lawrence, Mass.; A. W. Bitting, Lafayette, Ind.; George B. Blackman, Rome, Ga.; S. H. Caldwell, Montgomery,

Ala.; R. H. Drummond, Birmingham, Ala.; F. T. Eiseman, Louisville, Ky.; H. D. Fenimore, Knoxville, Tenn.; T. A. Geddes, Ames, Ia.; J. M. Good, Chattanooga, Tenn.; C. W. Heitzman, New Orleans, La.; J. R. Mitchell, Evansville, Ind.; Maurice O'Connell, Holyoke, Mass.; Joseph Plaskett, Nashville, Tenn.; E. M. Ranck, Philadelphia, Pa.; J. C. Robert, Agricultural College, Miss.; G. R. White, Chapel Hill, Tenn.; J. W. Jamieson, Paris, Ky.; M. Francis, Texas.

There were also present as delegates from the Pennsylvania State Veterinary Medical Association, Drs. J. C. Foelker and N. Rechtenwald.

Other members of the profession present were: J. C. Blankton, Farmville, Va.; G. D. Bray, Columbia, Tenn.; R. E. Collins, Memphis, Tenn.; T. H. Hagyard, Nashville, Tenn.; S. E. Jago, Shelbyville, Tenn.; R. J. Michener, Lebanon, O.; J. P. Rauch, Memphis, Tenn.; C. Barnwell Robinson, Washington, D. C.; F. S. Roop, Blacksburg, Va.; T. W. Scott, Nashville, Tenn.; D. K. Smith, Toronto, Can.; Francis Abele, Jr., Quincy, Mass.

Among the visitors were Gen. B. F. Cockrill, Nashville, Tenn.; L. E. Morgan, M. D., Baton Rouge, La.; M. Browning, Boston, Mass.; J. D. Plunkett, M. D., Nashville, Tenn.; Ferdinand Smith, Chicago, Ill.; Frederic Krey, New York, N. Y.; Harold Sorby, Chicago, Ill.; J. E. Aldrick, Memphis, Tenn.

The following ladies were present: Mesdames F. S. Schoenleber, R. R. Bell, H. D. Gill, F. H. Osgood, W. H. Hoskins, J. R. Hart, E. H. Shepard, N. P. Hinkley, W. C. Raven, A. H. Baker, T. B. Cotton, C. B. Robinson, M. H. McKillip, and Misses McKillip, Rechtenwald, and Wills.

The reading of the minutes was dispensed with and they were approved as printed in the "Proceedings" of 1896.

The following applications for membership were reported favorably by the Executive Committee, and they were elected: Ira K. Atherton, V. S., Marshalltown, Ia.; D. P. Frame, M. D. C., Colorado Springs, Col.; S. Houston Caldwell, M. D. V., Montgomery, Ala.; P. J. Cronon, M. D. V., Montgomery, Ala.; R. H. Drummond, M. D. C., Birmingham, Ala.; M. Francis, D. V. M., College Station, Tex.; Joseph M. Good, B. Sc., V. S., Chattanooga, Tenn.; Chas. W. Heitzman, M. D. C., New Orleans, La.; David King, V. S., Natchez, Miss.; Geo. N. Kinnell, M. R. C. V. S., Pittsfield, Mass.; J. C. Norton, D. V. M., Phoenix, Ariz.; Joseph Plaskett, D. V. S., Nashville, Tenn.; J. C. Robert, V. M. D., Agricultural College, Miss.; Edward M. Ranck, V. M. D., Philadelphia, Pa.; Geo. R.

White, D. V. S., Chapel Hill, Tenn.; Geo. B. Blackman, D. V. S., Rome, Ga.; Maurice O'Connell, D. V. S., Holyoke, Mass.; A. Gibson, D. V. S., Birmingham, Ala.; T. A. Geddes, D. V. M., Ames, Ia.; H. D. Fenimore, D. V. S., Knoxville, Tenn.

Dr. W. Horace Hoskins, Chairman of the Finance Committee, made a lengthy report, covering the period since 1894, and showing a balance in the treasury at the beginning of this session of $547.02.

Secretary Stewart began the reading of his report by detailing the arduous work of the position which he holds. He brought out the necessity of a safe storage for the records, etc., of the association, and said that an offer had been received from Prof. James Law, tendering such accommodations at Cornell University, and later in the proceedings the offer was accepted and Prof. W. L. Williams was chosen custodian of the property. The Secretary gave a statement of the poor results he had obtained in endeavoring to collect the delinquent dues of those dropped from the roll through the medium of a collecting agency, and thought that more money would be received by his own efforts from those who might wish reinstatement than by such methods as these agencies employ. He recommended a reduction of the dues to $3 per annum. His report showed that the cash on hand at the beginning of the year and receipts from various sources amounted to $1777.26, and that the disbursements had been $945.04, leaving a balance on hand up to September 7, 1897, of $832.22. There was owing the association $4660.04, some of which was good, but a large amount of it would never be collected. He estimated the expenses of the association for the coming year at $935, and upon this basis advised reduction in dues.

Chairman Williams, of the Publication Committee, presented a lengthy report, showing that the committee had been laboring hard to reduce the cost of printing the "Proceedings" and expedite the publication. The estimate for this year is $1.03 per page, against $1.33 last year, and is to be ready for delivery in forty-five days after the close of the meeting, against four months last year.

Chairman Gill, of the Committee on Intelligence and Education, reported that there are seventeen veterinary schools in America, all having a three-year course with the exception of three. The Ontario Veterinary College has informed the Chairman that it would next session advance its course to three years. Salient points in the report were recognition of the increased

intelligence of graduates as shown by their ability to pass civil service examinations; the appointments of Profs. Pearson and Grange to deanships; the State Universities versus the private schools; there are twenty-seven agricultural colleges (their graduates should have allowance of one year when entering veterinary colleges); experiment station workers commended; new publications of the Bureau of Animal Industry works of great value; every office of Bureau now in classified list except that of the Chief; the Secretary of Agriculture praises the better work of its employés since the adoption of civil service; regrets the political appointments of quacks in Illinois, Michigan, and Nashville; praises the recent appropriation by Pennsylvania to investigate animal diseases. A long report on journalism was read from Dr. W. H. Dalrymple, member of the committee, praising the excellent work which the journals are doing, showing how inadequate text-books are in the vitascopic rapidity with which new discoveries are being placed before the profession; how the journals reinforce and modernize the text-books and keep the veterinarian abreast of the times; how those who fail to read them must fall behind those who do, and advising all to subscribe to as many as possible. He was surprised to learn that less than one-third of the members of the profession in this country read the journals published here, which he considers very excellent ones, and made a very strong plea for an awakening of interest in them, both financially and by contributing to their literary values.

The Secretary read the report of Chairman Theobald Smith, of the Committee on Diseases, who recommended the abolition of the Committee as it was a dead letter. The literature furnished by the Department of Agriculture, the Bureau of Animal Industry, and the journals is deemed far superior to any reports that this committee has ever made. In lieu of the present methods he recommended that some one of the infectious diseases be selected and have the various members investigate and report upon it.

The reports of the various State Secretaries were read by title, and will be printed in the "Proceedings."

It was resolved to distribute the large number of not used copies of the proceedings for different years among libraries, boards of health, and other sources calculated to benefit the profession by the dissemination of a knowledge of its deliberations.

The following resolution committees were appointed: On the death of Jno. R. Hart, Drs. Pearson and Rayner; on the

death of Charles F. Douglass, Drs. Bell and Ackerman; on the death of O. H. Flagg, Drs. Law and Rayner.

The question of a reduction of the dues was, by motion, referred to the Executive Committee, which later gave notice in writing to the association of a change in the constitution to accomplish this, which cannot be acted upon until the next session.

After adjournment for lunch the section of State Medicines was assigned the afternoon, and the first subject introduced was a paper on "The Action Experimentally of Tuberculin on Healthy Cattle," by Dr. T. D. Hinebauch, of North Dakota.

The discussion of tuberculosis, under a variety of phases, was then taken up, and Dr. J. M. Parker, Secretary of the Massachusetts Cattle Commission, read a lengthy and very interesting paper on the "Results Attained and Attainable by State Control,* and was followed by one by Prof. E. P. Niles, of Virginia. Dr. Leonard Pearson, of Pennsylvania, was the next speaker, and gave a very interesting epitome of the subject.

Dr. A. W. Clement, of Maryland, followed as one of the assigned speakers, and Dr. Salmon then indulged in very interesting remarks, after which the discussion became general, being participated in by Drs. Cary, Law, Baker, Lowe, Gill, Stalker, and others.

On reassembling on Wednesday morning, at 9 o'clock, the report of the Executive Committee was received and approved, after which the election of officers for the ensuing year was taken up. For President, Dr. Cary, in a neat speech of laudation, placed Dr. Salmon in nomination, while Dr. Osgood's name was presented by Dr. Lowe, who said he had made an admirable presiding officer, and, as he had made many important suggestions in his annual address, he should have the opportunity to put them into effect. Dr. Gill seconded Dr. Osgood's nomination, and thought precedent established his right to reëlection. Dr. Williams seconded the nomination of Dr. Salmon, and called attention to the fact that other Presidents had been given but one term. Dr. Hoskins spoke heartily for Dr. Osgood, after which ballots were distributed by the tellers, which on being counted showed that Dr. Salmon had received 29 and Dr. Osgood 23. President Osgood declared that there was no gentleman whose election he would rather announce than the distinguished chief of the Bureau of Animal Industry.

* Printed elsewhere in this issue.

Dr. Thomas B. Rayner was nominated by Dr. Hinkley for Eastern Vice-President, which was seconded by Dr. Peters, and nominations were closed.

Dr. W. C. Rayen, of Nashville, was placed in nomination for Central Vice-President by Dr. Bell, and Dr. A. T. Peters, of Nebraska, was nominated for Western Vice-President by Dr. Butler. The Secretary was instructed to cast a ballot for the three Vice-Presidents, which was done.

Nominations for Treasurer being in order, the name of James L. Robertson, the incumbent for the past fifteen years, was shouted from various quarters, but Dr. Hoskins explained that that gentleman earnestly desired to be relieved of the duties, and while he should be glad to vote for him, he thought it was unfair to insist upon throwing the burdens of the office upon Dr. Robertson year after year in the face of his annual protests. Dr. Butler nominated Dr. Williams, but he declined as he is already burdened with offices requiring much of his time, and a new office has been voted him at this session. Dr. Pearson nominated Wm. Herbert Lowe, and he was elected.

For Secretary, the name of the present admirable incumbent, Dr. Stewart, was simultaneously shouted by almost every member present, and he was instructed to cast one ballot for himself.

The officers of the association for 1897–98, therefore, stand as follows :

President—Dr. D. E. Salmon, of Washington, D. C.

Eastern Vice-President—Dr. Thomas B. Rayner, of Pennsylvania.

Central Vice-President—Dr. W. C. Rayen, of Tennessee.

Western Vice-President—Dr. A. T. Peters, of Nebraska.

Treasurer—Dr. Wm. Herbert Lowe, of New Jersey.

Secretary—Dr. S. Stewart, of Kansas.

Custodian of Records—Dr. W. L. Williams, of New York.

Dr. Pearson then read a carefully-prepared paper entitled "A Review of the Field of Veterinary Science," which elicited no discussion.

Dr. Charles Ellis, of Missouri, read his paper on "Our Milk Supply," which was discussed by Drs. O'Connell, Parker, and Ellis.

Then Dr. Dalrymple came forward with "The Veterinary Field in the South," which was a masterful portrayal of the difficulties encountered in that new veterinary country, but showing that the barriers are being rapidly broken down and

that profitable and congenial practices were being established by many educated veterinarians. The discussion, which was of the most liberal and diversified character, from the reputed malarial infection of the country (denied by all) and the social equality of all good citizens, to a consideration of the diseases encountered, was indulged in by Drs. Butler, Cotton, Heitzman, O'Connell, B. F. Cockrill (the famous breeder of thoroughbreds), Wheeler, and Plunkett (ex-President of the State Board of Health).

Dr. C. A. Cary, of Alabama, then brought forth a paper which riveted the attention of all in the audience, upon the subject of "Osteo-porosis," illustrating his study of the pathological processes by a generous collection of specimens, showing different portions of the osseous system affected, and a deposit of compact tissue in those cases of apparent recovery. He would read from his paper, and then take up the specimens and describe the processes as he had studied them. He claimed that the diagnosis of the disease was often an error, the condition being that of pus in the sinuses, caries of teeth, etc., and yet if we remember that the enlargements of osteo-porosis are always symmetrical an error need never be made; it is totally dissimilar to osteo-malacia, but believes it identical to the "bran disease" of the Germans. Treatment was thoroughly considered, and altogether it was very instructive and more original in reasoning than is usually contained in such contributions. Immediately upon its completion questions were plied from all quarters, and when this line of discussion was finished many gave forth their theories as to its cause, each citing cases upon which his conclusions were based. The interesting discussion was taken part in by Drs. Baker, Wheeler, Fenimore, Bell, Rechtenwald, Hoskins, O'Connell, White, Mitchell, Gill, and Gen. Cockrill.

At the request of many members the question of holding the banquet on the second evening of the session, instead of the last, was brought up, showing that by doing so members could catch trains and reach home much earlier than if they remained for the supper on the last evening, and, as a matter of fact, many would forego the banquet in order to abridge their absence from home. It was, therefore, voted to change the date of the banquet to Wednesday night, and the success of the venture in this instance—resulting in a large attendance, and enabling members to save from ten to twenty hours—will almost ensure making this the rule in the future.

The convention now adjourned to accept the hospitality of the Entertainment Committee, who had three special cars at the depot at 3 P. M. to convey the guests to the far-famed Belle Meade Stock Farm, about seven miles distant from the city, where they roamed through the spacious and model grounds and barns, viewing the premises and the stock. Under the guidance of General Cockrill, to whom pedigree and points are as A, B, C, the entire party of ladies and gentlemen were taken to the stall of each famous stallion, who occupies a twenty-foot stable, surrounded by an acre paddock. The stud-groom would lead out the occupant, the guests would view his beautiful outlines, and possibly criticise some acquired unsoundness obtained in the struggles which gave him fame and entitled him to be placed among the galaxy of notables at Belle Meade; General Cockrill would give his pedigree with all regard for details, and then the groom, "Sam," would go over his achievements, either in poetry or some drollery, which has made him also famous. First was Inspector B., the famous Dwyer race-horse; then Luke Blackburn, now twenty years old, but as playful as a two-year-old; then the world-famed Iroquois, the only American horse than ever won the English Derby, followed by imported Loyalist and Clarendon, while all were anxious to be shown that wonderful old blind sire of great ones, Great Tom, twenty-four years old, and blind from periodic ophthalmia for seventeen years, but without transmitting that defect to any of his get. Upon his sides are the unsightly scars from severe blisters when suffering from pneumonia as a four-year-old, necessitating his retirement from the turf, and now, after twenty years, still raw in summer time from irritation. These marks were left by our English cousins, and are simply reminders of the therapy of a past age. With ringbones, capped hocks, bursal enlargements, sightless sockets and revolting sides, he came out of his stall at a trot, and when the inspection was over galloped around his paddock as though he still enjoyed the delightful home furnished by his kind master in the evening of his useful life. The large herd of Jerseys were inspected during the milking hour, after which the guests assembled in a fantastic group upon the steps and veranda of the colonial homestead, where photographs were taken of the interesting spectacle, and from a half-finished copy shown the next day it is a splendid specimen of photographic art, each face being as distinct as if its possessor were sitting for a portrait. Major McCann, who had by this time come to be

regarded as "everybody's friend," was seen kneeling in front of an evergreen in the foreground, with a little child on either side. From here the guests reëntered the cars, awaiting them at the entrance to the grounds, and steamed back to the city, all happy in what they had seen and enjoyed, but tired and hot from walking under the intense rays of the southern sun.

Although the banquet was announced for 8.30, it was half past nine before the band announced that the repast was complete, owing to the change of date; and a well-decorated table running from one end to the other of the immense dining-hall, was soon surrounded by the largest number of veterinarians that ever sat at a banquet-table in America. When cigars were passed around, Toastmaster Hoskins, whose verbosity and versatility in that function are famous wherever veterinary repasts are indulged in, started the ball in motion, and from Professor Law to the Major's poetic stories there was not a dull moment.

When the morning of the third day arrived the members were promptly on hand, ready to listen to and discuss the balance of the papers to be read, just as though they had not been wining and dining the night before.

On assembling at 10 o'clock A. M. of the third day, after the transaction of some routine business, the association did a very becoming act in accepting the resignation of Dr. Theobald Smith as an active member, and, under suspension of the rules, electing him to honorary membership. Probably no man in the United States has done more to elevate our calling by adding to our knowledge of bacteriological subjects by original investigations than has Professor Smith.

The recommendation of the Executive Committee that all members who are delinquents for more than two years be suspended was carried, as was also their recommendation to drop all from the roll who had failed to qualify. It was also voted to give an extension of one year to all members two years in arrears, during which time they can pay their dues without accruing any other dues in the interim, and can, on application to the Secretary and payment of dues to date, become reinstated without further consideration by the Executive Committee.

Dr. John W. Connoway, of Missouri, then presented an exhaustive paper, covering the experiments of himself and colleagues with Texas fever, with numerous specimens of ticks, giving many details of their life history. Their experiments have been directed toward disinfecting southern cattle, so that they could be safely sent to the northern feeders without spreading the

disease among northern cattle. Their experiments had clearly demonstrated the fact that the tick is the only agent active in disseminating the disease—a fact which had been denied by some investigators and especially by the laity. He explained at length the coöperative work between himself and Dr. Francis, of the Texas Experiment Station, looking to the efficacy of dipping cattle in mineral oil for the destruction of ticks, and the better results obtained by double dipping, finally recommending three dippings—one upon the infected range, one at the quarantine line, and one at the termination of the journey, this method promising to be a solution of the difficult problem. Another phase of the subject was considered in the inoculation of imported animals (those brought from the north to the south) to prevent their acquiring the fever. While this had been experimented with thus far it had not proven satisfactory. Dr. Connoway came within the twenty-minute rule, and, although he was voted an additional ten minutes, had to curtail his "talk" before he had completed his subject. The discussion which followed was participated in by Drs. Parker, Niles, Francis, Robert, Salmon, Law, and Wheeler.

After luncheon, Dr. E. P. Niles read a paper entitled "Veterinary Education and Medical Colleges," which brought forth a mild discussion by Drs. Gill and Hinebauch.

Dr. T. D. Hinebauch, of North Dakota, brought up the subject of "Millet Feeding," showing that the disease which he has described as "millet disease" is distinctively different from "osteo-porosis," though many have confounded the two on account of some symptoms and post-mortem lesions being similar. The disease exists in Nebraska, Kansas, South Dakota, Illinois, Pennsylvania, Wisconsin, and Minnesota. An examination of millet experimentally has produced the same symptoms in the animals experimented upon as in the victims of the disease to which he referred. The discussion following was indulged in by Drs. Cary, Williams, and others.

Dr. W. L. Williams, of Ithaca, N. Y., then read a most original paper entitled "Inhalation Pneumonia," which was so novel in its therapy as to disarm discussion beyond the point of interrogation. The REVIEW will publish it next month.

Following this, Dr. A. W. Clement, of Maryland, presented the subject of "Rabies," and the evidence deduced from reliable sources effectually combatted the tendency among a few gentlemen to discredit the existence of such a disease. His paper was very interesting and valuable, and its discussion by Dr.

Salmon brought out additional facts and suggestions of great importance; other speakers were Drs. Gill, Cotton, Ellis, Parker, Dalrymple, Hoskins, Plunkett, Meyer, Pearson, and Law.

At the close of the discussion on rabies, the Committee on Resolution reported as follows:

WHEREAS, The character of the milk supply of a city is of the greatest importance to the health of the public, and a contaminated milk supply is often followed by widespread suffering and numerous fatalities, and

WHEREAS, The wholesomeness of the milk supply is of equal importance with that of the water supply, for the improvement of which such intense efforts are frequently made, and

WHEREAS, Milk is contaminated in a great variety of ways, some of them so obscure that they are frequently overlooked, and require expert knowledge for their detection, and the usual city inspection, consisting merely in the detection of added water, is entirely insufficient for the proper protection of the public, and an inspection is required that includes the observation and the correction of defects of all phases and stages of the operation of milk production and distribution, be it

Resolved, That a thorough veterinary system of dairy inspection is hereby recommended to all boards of health, with the belief that it will exert an important influence for the protection of public health, the preservation of infant life, and the betterment of the diet of the people through the increased consumption of safe and wholesome dairy products.

WHEREAS, The tuberculin test has been proven to be the only reliable ante-mortem means yet discovered of determining the existence of tuberculosis in its obscure forms, and

WHEREAS, The repetition of this test on the same subject tends to lessen the characteristic reaction, thus producing a non-responsive condition of the animal which may be mistaken for soundness, and

WHEREAS, These facts may be, and are taken advantage of by the irresponsible and unscrupulous to aid in the disposition of diseased animals, be it

Resolved, That the private employment of this test except as supervised by competent and responsible persons, is fraught with danger to the public.

WHEREAS, This the thirty-fourth annual convention of the U. S. V. M. A., now closing its sessions in Nashville, has received every courtesy and assistance from the local Committee of Arrangements, the veterinarians of Tennessee, the citizens of Nashville, the Nashville and Chattanooga Railroad, and the authorities of the Tennessee Centennial Exposition, through their representative, Hon. John J. McCann, and

WHEREAS, This generous and hearty reception has greatly facilitated our work, and has made our visit enjoyable and profitable to an exceptional degree, be it

Resolved, That the thanks of this association are hereby tendered the veterinarians of Tennessee and the South, and to the citizens of this beautiful city for the hospitality we have enjoyed; to the press of Nashville for their full and accurate accounts of our proceedings, and to Hon. John J. McCann, for his untiring efforts that have so largely contributed to our comfort and entertainment.

WHEREAS, The sale of cattle for breeding purposes furnishes abundant and frequent opportunities for the dissemination of tuberculosis to uninfected herds, be it

Resolved, That all cattle sold for such purpose, should, before going to their destination, have the tuberculin test applied, and a certificate in accordance with the facts, furnished by the proper sanitary officer of the State, be it

Resolved, That the Committee on Diseases is hereby instructed to devote special attention to the subjects of osteo-porosis and -rabies especially to the distribution, prevalence and losses caused by these diseases, and to report upon the same at the next annual meeting.

WHEREAS, Rabies of dogs and other domestic animals prevails in certain sections of the United States,

Resolved, That the sanitary authorities of the various localities should take action, looking to the control of dogs for the prevention of the disease.

WHEREAS, The growth and expansion of the civil service on the merit system of appointment has received our official approval from time to time, and

WHEREAS, Its continuance has demonstrated the wisdom and value of this method of selection for the public service, and has secured the best corps of workers the public has ever had in its employ, be it

Resolved, That we most earnestly urge its continuance, its higher development and further extension, and that we pledge our united support to our National, State and municipal officials who are charged with its execution and maintenance.

WHEREAS, The small slaughter-houses in country districts, as well as in cities, are difficult of proper inspection and supervision as they are so widely separated and are operated irregularly, and

WHEREAS, Unscrupulous parties take advantage of this fact, to have animals in a diseased and unsound condition slaughtered for food at such places, thereby menacing the public health, therefore, be it

Resolved, That the United States Veterinary Medical Association recommends the prohibition of small and widely scattered abattoirs, and the establishment of central slaughter-houses with municipal ownership, if practicable, where constant and rigid supervision may be enforced.

After some discussion, and an amendment to the rabies resolution, they were adopted.

The Secretary then read the titles of the following papers, the authors of which were not present: "Bacteriology," by Dr. George N. Kinnell; "Malignant Catarrh of the Ox," by Dr. A. Youngberg; "The Use of the Actual Cautery," by Dr. William Dougherty. These were ordered printed with the regular proceedings.

In discussing the recommendations for the next place of meeting, Dr. Parker advocated Boston; Dr. Peters, Omaha; St. Louis was very cordially placed in nomination, as was also New York City.

The retiring President, in a neat speech, thanked the members and visitors for their close attention and adherence to rules, which had assisted so much in making the meeting such a success in the great amount of work which had been accomplished, and introduced his successor, Dr. Salmon, who spoke briefly, thanking the members for the great honor they had conferred upon him, and soliciting their coöperation for the coming year. Following these addresses, the new Vice-Presidents, Secretary and Treasurer were presented to the association and accepted their positions in a few well-chosen words.

Adjournment for one year then followed, and it was the opinion of all whom the writer interrogated that no preceding session exceeded in interest, value, and attendance the convention of 1897.

NOTES OF U. S. V. M. A. MEETING.

FREDERIC KREY, representing the well-known veterinary instrument house of John Reynders & Co., of New York, had a

fine display in the lobby of the Tulane Hotel, and his tables were the scene of much interest to the members, who examined the many recently improved and invented instruments, making all kinds of comments and inquiries. No other house sent a representative.

Everything was hot at Nashville—even the weather.

They were there from Nebraska to Alabama, and from Texas to Canada.

There was quite a change in sentiment toward tuberculosis as compared with the Buffalo meeting, and it was Dr. Clement's turn to smile.

A recent correspondent of the *Journal*, ridiculing the existence of genuine rabies, was sat upon by the Resolutions Committee.

Reduction in annual dues and more members was the slogan, and if the one shall produce the other, all should be happy.

"Let every member have a vote for the officers, whether he can attend the meetings or not," says ex-President Osgood.

The gray locks of the new President are very becoming.

The Dean of the United States College of Veterinary Surgeons waxed very forceful before the Faculties.

The movement to unite the Faculties and the Examining Boards has taken definite form in that a written notice of change of by-laws has been filed.

Quite a delegation stopped over at Chattanooga, visiting Lookout Mountain, with a drive through her beautiful parks; others spent a day or two at Asheville, and through the courtesy of Dr. Wheeler, of Biltmore, were shown through the wonderful Vanderbilt estate, while a few others visited Mammoth Cave in Kentucky.

Major McCann would be a drawing card for any city bidding for the veterinary convention.

The newspapers of Nashville gave long accounts of each day's proceedings and the *Banner* published the portraits of many. We noticed the familiar faces of President Osgood, Vice-President Bell, Secretary Stewart, Vice-President-elect Thomas B. Rayner, his brother, James B. Rayner, Doctors Hoskins, Gill, Williams, Ackerman, Pearson, Foelker, Hinkley and Cary.

Two faces greatly missed at Nashville were those of James L. Robertson and William Dougherty.

Osteo-porosis seems to be a very attractive subject to veteri-

narians of all stamps; as its discussion was the most general of the meeting.

The attendance of ladies far exceeded all previous years, and there was some talk of organizing a society composed of the wives of members.

The exposition was a source of great pleasure and much profit to the members, and the diversity of its attractions appealed to all tastes, from the streets of Cairo to the Museum of Art.

The new Treasurer, Wm. Herbert Lowe, is very proud of his new office, and is prepared to give bonds in any amount.

The association made overtures to the experiment station workers, and tried to secure their amalgamation as a section of the parent organization; but while they expressed the most filial regard for her, they preferred to remain as a separate body for the present, but their deliberations will be published with the association's "Proceedings," as will those of the Faculties'.

The *cuisine* of the Tulane received a generous amount of criticism, as did the rooms assigned to many.

Twenty new members—mostly from the South—was the reward of our experiment in going below Mason's and Dixon's line; and as these would probably not have been secured otherwise, we may well feel repaid.

All in all, it was the best meeting the association ever held.

The contest for President was rather sharp—23 to 29.

An effort was made to have the Executive Committee instructed to hold the next meeting in Boston. Omaha is a lively candidate for 1898, as she is to have an exposition with reduced railroad fares, etc. Centrality and accessibility should be the factors.

The second night banquet was a great success, and its permanent adoption is assured.

ASSOCIATION OF VETERINARY FACULTIES OF NORTH AMERICA.

The meeting of this association was held at 8 P.M. on Tuesday, Sept. 7, at the Tulane Hotel, Nashville, Tenn., during the meeting period of the United States Veterinary Medical Association. Dr. Pearson occupied the chair and the following colleges were represented: Harvard University, Dr. F. H. Osgood; American Veterinary College, Dr. R. R. Bell; New York Veterinary College, Dr. H. D. Gill; University of Pennsylvania,

Dr. Leonard Pearson; Columbia University, Dr. D. E. Salmon; Kansas City Veterinary College, Dr. S. Stewart; McKillip Veterinary College, Dr. F. S. Schoenleber; Cornell University, Dr. James Law; Iowa Agricultural College, Dr. M. Stalker; United States Veterinary College, Dr. C. B. Robinson; Ontario Veterinary College, Dr. D. K. Smith; Chicago Veterinary College, Dr. A. H. Baker.

Drs. Hoskins, McKillip, Clement and Parker were also present, the last two being invited to be present as representing McGill University, unofficially.

On motion of Dr. Stewart, seconded by Dr. Baker, the minutes of the last meeting were approved as read.

The Executive Committee reported favorably on the application of Dr. R. R. Bell, American Veterinary College; Dr. Greiner, Indianapolis Veterinary College; Dr. Smith, Jr., of Ontario Veterinary College, and Dr. F. S. Schoenleber, McKillip Veterinary College. Drs. Clement and Parker not being eligible to represent McGill University (not of the faculty or teaching staff) were reported unfavorably. On motion of Dr. Baker, seconded by Dr. Stewart, those representing other schools, but not eligible to vote, were invited to attend the meeting during reading of papers and the discussion of the same.

Report of Committee on Uniform Standard of Entrance Examination—(Drs. D. E. Salmon and James Law).—Dr. Salmon reported that he had no report on the subject, but that Dr. Law had. Dr. Law read his report and it was discussed at length by every member present, and the discussion waxed so warm that Dr. Law protested to the very pointed and personal remarks of Dr. Robinson, who was repeatedly called to order. When asked if the report of Dr. Law expressed the ideas of the whole committee, Dr. Salmon answered the chair that it did not, and that he would present one at the next meeting. On motion, Dr. Law's report was accepted after it had been explained that acceptance does not imply an endorsement of the views expressed. On motion, further discussion was postponed till after the reading of Dr. Hoskins' paper on "Uniformity of State Regulations Governing the Practice of Veterinary Medicine." Both papers were freely discussed; the prevailing opinion seemed to be for uniform entrance examination. On motion, Dr. Hoskins' paper was accepted.

On motion of Dr. Osgood, seconded by Dr. Schoenleber, that a committee of five (5) be appointed to report at the next meeting on the advisability of forming a "National Examining

Board," was amended by Dr. Salmon, seconded by Dr. Bell, that a provision should be made for a co-operation with state associations to secure a uniform provision in legislation authorizing the examining board to establish the standard of examination and to accept the certificate of other boards that have satisfactory requirements. Motion as amended was carried. The President appointed the following members as committee: Drs. Osgood, Law, Salmon, Schoenleber and Bell.

The following amendment to Articles I and II of the Constitution was proposed by Dr. Pearson:—"*Resolved*, That Article No. I be so amended as to read: 'This body shall be known as The Association of Veterinary Faculties and Examining Boards of North America.' That Article II be so amended as to read: 'This association shall consist of members of governing faculties and teaching staffs of all veterinary schools of North America which confer a degree in veterinary science, and of members of State veterinary examining boards that grant licenses to practice, but each college and board shall have but one vote in the meeting, and that vote shall be cast by the properly appointed delegate of the school or board.'" The President ordered it to take the regular course.

The election of officers being in order, on motion of Dr. Robinson, seconded by Dr. Osgood, the present incumbents were declared re-elected, and the Secretary cast the ballot as follows:

President, Dr. Pearson; Secretary-Treasurer, Dr. Gill; Executive Committee, Drs. Law, Stalker, McEachran, Salmon, Robertson.

On motion of Dr. Osgood, seconded by Dr. Robinson, that the minutes of the meeting and papers be published in the report of the United States Veterinary Medical Association. Carried.

Meeting adjourned. H. D. GILL, *Secretary*.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The final meeting for the season of 1896–97 was held in Room No. 1, third floor, N. W. corner of Broad and Filbert Streets, Philadelphia, Tuesday evening, June 8th.

The meeting was called to order by Dr. James B. Rayner, with the following members of the profession present: Drs. Drake, S. H. Johnson, A. Jolly, of Atlanta, Ga.; W. H. Hoskins, F. S. Allen, H. P. Eves, W. L. Hart, James B. Rayner, W. L. Rhoads.

Dr. W. Horace Hoskins, as Chairman of the Committee on Legislation, spoke of a bill to prevent the introduction of cattle unless accompanied by a free bill of tuberculosis, having passed both houses and now only awaits the Governor's signature to become a law. The bill reported at last meeting, which will tax all carcasses coming into the State and establish a number of meat-inspectors along our border lines, has passed the House and is having a hard time of it. The bill to reopen registration met the fate which it merited, and did not emerge from the committee room. It was now explained why the great decrease in the State's income had limited to a great extent the work of the State Veterinary Sanitary Board and all similar work for a time.

The advisability of the veterinarian helping to procure bicycle paths through Fairmount Park, and thus encourage the driving public, was discussed.

It was then moved and seconded that the association enter upon the discussion of "Lameness." Dr. Thomas B. Rayner, had been designated as the one to open the discussion. He being absent, this duty devolved upon Dr. H. P. Eves. He spoke of the many trials and troubles we encounter in diagnosticating, seldom finding the same symptoms indicative of the same seat of trouble, and told of the benefit to be derived at times from the use of cocaine in cases where the effect might be plainly apparent while the lesions were obscure. He felt that much of our lameness was due to osteo-porosis, in which theory he was upheld by nearly all those present.

Dr. Jolly, of Atlanta, Ga., was now called upon. During the course of his remarks he spoke of a family of about thirty-five or forty horses in his vicinity which always show a rigidity of gait, going this way probably for years, then while driving or at work they suddenly break into profuse perspiration, go down, and in a short time die. Considerable discussion followed as to the cause.

Dr. Pearson spoke of one of the great show-stallions siring a number of colts which developed osteo-porosis. Yet many things seem to indicate that it is infectious.

Dr. Drake had seventeen cases in one stable within two years, and we find many instances of this kind regardless of location, environment, breed or work.

Dr. Pearson said it is barely possible that its cause may be a minute parasite, as is Texas fever, roup, cancer, etc., yet it is unknown in England or in Germany.

The treatment suggested was lime in its various forms.

Bone-meal, ground to an impalpable powder (it should first be burned, as by this process you get rid of all organic substances; it must then be specially ground).

Dr. Eves asked why a blind horse had a remarkably sleek coat in the winter and a rough appearance in summer. He had often noticed it, but had never found a satisfactory explanation. Can any of our professional brothers answer, or have they, like most of those present, been going around with their eyes shut?

Thus ended what has been to the members of the K. V. M. A. and their professional friends (who were enough interested in the advancement of the profession to attend the meetings, which are at all times open to them,) one of the most interesting and instructive sessions ever known in its history. The subjects of the half-hour talks were widely diversified, thus making it a post-graduate course, as it were, well worth the time of any progressive practitioner to attend, and the course here as elsewhere shall improve year by year. We feel that, with the exception of the great loss sustained by the death of our beloved President, Dr. John R. Hart, we have had a year of marked progression—a progression which was largely due to his indefatigable energy and efforts, and we hope to make the meetings more entertaining, more instructive, and more forcible year by year, so that each speaker or invited guest may feel as one of our speakers expressed himself during the past session, when he said he "considered it an honor to have the privilege of addressing the K. V. M. A., the oldest local veterinary medical association in continuous existence, also the most——" but, being secretary of the association, modesty forbids my quoting too closely his remarks on this topic.

Adjourned to meet September 14, 1897.

DR. W. L. RHOADS, *Secretary.*

INDIANA STATE VETERINARY ASSOCIATION.

The semi-annual meeting of the Indiana State Veterinary Association was held in Indianapolis, Ind., July 13 and 14, 1897.

The meeting was called to order, L. A. Greiner, Vice-President, in the chair, with the following members present: Drs. J. W. Klotz, H. G. Roberts, G. G. Ferling, O. L. Boor, A. W. Bitting, T. B. Pote, John Cramer, J. Crail, F. W. Anderman, and J. C. Rodger. Visitors: Samuel T. Rodebaugh, Robt. B. Harper and J. B. Kinter.

The minutes of the previous meeting were read and approved; also the reports of the Secretary and Treasurer.

The Committee on Legislation made a verbal report, and were continued indefinitely.

The admission of new members consisted of Drs. S. I. Rodebaugh, New Augusta; J. B. Kinter, Danville; Robt. F. Harper, Indianapolis; Ferd. A. Mueller, Indianapolis, and Jos. A. Creedon, same place. On motion, we adjourn to meet at 7.30 P. M. On convening. we had as visitors Drs. T. J. Turner, U. S. inspector, Indianapolis, and Dr. Netherland.

Dr. L. A. Greiner then read a paper on "Navicular Arthritis and its Treatment," after which Dr. G. H. Roberts read a paper on "Acute Indigestion." This was followed by Dr. T. J. Turner reading a paper on "Veterinary Associations and What They Can Accomplish." Dr. O. L. Boor then read a paper on "Bovine Tuberculosis; Danger of Transmission to the Human Race; Method of Diagnosis and Treatment," after which the meeting adjourned to meet at 9.00 A. M., July 14th.

On convening, Dr. A.W. Bitting, of Purdue University, gave a lecture on "Formaldehyde," which was well received and a good discussion followed in regard to its antiseptic and disinfecting properties; after which we adjourned to meet in Indianapolis in January, 1898. J. C. RODGER, *Secretary.*

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The first meeting of this association after the summer vacation will be held in their rooms, in the Academy of Medicine, New York City, on Wednesday evening, October 6th, at 8 o'clock, and all members are requested to be present. All other veterinarians in Greater New York are invited to connect themselves with the society. The monthly meetings are always interesting, and metropolitan practitioners can ill afford to lose such an opportunity for profit and pleasure.

NEWS AND ITEMS.

AT the last New York State Fair A. K. Robertson, D. V. S., of Brooklyn, was one of the judges of horses.

DR. WIGHT, Delaware, Ohio, has succeeded Dr. J. C. Meyer, Jr., on the Ohio State Board of Veterinary Medical Examiners.

AT the September meeting of the Massachusetts Veterinary Association, held on the 22d, the question of reducing the annual dues from $5 to $3 was to be acted upon.

AN ORDER received by the Armour Packing Co., of Chicago, from the Orient, on Sept. 1st, calls for 1,250,000 lbs. of beef. This was the second order from the same source within a short time.

DR. JACOB HELMER MARRIED.—This well-known veterinarian was married to Miss Martha E. Shoemaker at Syracuse, N. Y., August 31st, and after a brief honeymoon returned to the home of the groom in Scranton, Pa.

"THE AMERICAN HORSE BREEDER," for Aug. 3, contains a description of Cottage Farm, at Deering, Maine, with its fashionably-bred trotting stock, which is the pride of its owner, Geo. H. Bailey, D. V. S., State Veterinarian.

DR. S. D. BRIMBALL, President of the Minnesota State Veterinary Medical Association, has been appointed by the Minnesota State Board of Health as field veterinarian, as assistant to State Veterinarian Reynolds, at a salary of $1800 per annum.

RAVAGES OF HOG CHOLERA.—The immensity of the devastation wrought by this swine affection may be approximated when the statement is considered that in 1896 the State of Iowa alone, suffered a loss of $15,000,000.

DR. M. H. REYNOLDS, of the University of Minnesota, was one of the judges in the horse ring at the Minnesota State Fair this year and will judge the horses at a number of county fairs in that State this fall.

THE September *Journal* recommends to the Agricultural Department the stocking of Alaska and the Klondike region with reindeer, whose constitutions would survive the climate, and their products of meat, milk and hides would be a source of sustenance to our citizens who have and will locate there.

DR. W. H. DALRYMPLE, of Baton Rouge, La., has been appointed to the chair of Veterinary Science in the University and A. and M. College of that State, and also veterinarian to the Experiment Stations, vice S. B. Staples, B. S., D. V. S., resigned.

GLANDERS IN A CHILD.—Dr. Fred. J. Smith, of Alton, Iowa, has had a case of glanders in a child three years of age. The lesions were frightful in character and of course fatal. The facts were reported to Dr. Gibson, State Veterinarian Surgeon, who went to Alton to see the case but arrived too late.

DRAFT HORSES GETTING HIGH.—A team sold in this (Chicago) market this week at $465. Big good ones are growing

scarcer every week. The return to draft-horse breeding cannot be made too soon. The early stallion buyer seems certain to get the best bargains this fall. The supply is limited and it is difficult to figure out a sufficient number of good horses of serviceable age to go around—(*Breeders' Gazette, Sept. 1.*)

AGRICULTURAL EXPERIMENT STATION FOR ALASKA.—It is reported says *Science*, that the Secretary of Agriculture will ask Congress, at its next session, to authorize the establishment of an agricultural experiment station in Alaska. Suitable scientific experiments would be of great value in showing what agricultural products and domestic animals could be introduced to advantage.

COST OF THE U. S. DEPARTMENT OF AGRICULTURE.—In the appropriations made by the Congress of 1897 we find the following items, which show the cost of the Department of Agriculture for one year: Total for the Department, $1,564,760; salaries and expenses Bureau of Animal Industry, $650,000; Agricultural experiment stations, $750,000; publications, $70,000; biological investigation, $17,500; animal quarantine stations, $12,000. Total for weather bureau, $883,772. Grand total, $2,448,532.

ANTI VIVISECTION BILL.—Veterinarians should not forget that Senate Bill No. 1063 still remains on the calendar of that body. As soon as a favorable opportunity presents itself the bill will be called up for passage. This bill strikes right at the root of all original investigations in this subject, and would in all probability be followed by similar efforts in many States, which, if successful, would put an end to all progress in human and comparative medical science, and should be strenuously opposed. —(*New York Spirit of the Times.*)

MINNESOTA STATE FAIR AND HOG CHOLERA.—The Minnesota State Board of Health, after a conference with the Secretary and Director of the Agricultural Society, prescribed the conditions under which swine might come to the Minnesota State Fair this fall—to be inspected upon arrival and daily in spections during the fair week, because of the prevalence of hog cholera in that State. No disease appeared among the swine upon the fair grounds, and it is hoped that the exhibit this year will not result in any increased spread of hog cholera.

AN INNOVATION IN COLLEGE ADVERTISING.—The University of Pennsylvania has just issued a very neat illustrated pamphlet entitled "The Veterinary Profession: its Relation to the

Health and Wealth of the Nation." It consists of a series of bright articles by successful alumni of that school, treating of all phases of the question, illustrating the broad work which is now demanded of the graduate, and showing the enlarging field, to occupy his services. It will go a long way toward educating the public as to the importance of the profession in State Medicine, if thoroughly circulated, and to the popularizing of the school which sends it forth.

AT THE NEW YORK STATE MEETING.—At the very successful meeting of this Society in Syracuse on Sept. 14 and 15, the following members were present: J. L. Ronan, Corning; F. L. Kilborny, Kelloggsville; W. H. Pendry, Brooklyn; E. F. Bettinger, Chittenago; V. L. James, Cooperstown; James Law, Ithaca; M. M. Poucher, Oswego; Jas. A. Pendergast, Phoenix; G. C. Kesler, Holley; H. E. Clark, Newburgh; J. A. McCrank, Plattsburgh; W. B. Switzer, Williamson; H. D. Gill, New York City; J. M. Currie, Rome; Chas. Cowie, Ogdensburg; W. S. Corlis, Carthage; Jno. A. Bell, Watertown; Eugene M. Casey, Oxford; Romanzo Perkins, Hardy's; F. Morrow, Oneida; Thos. Burns, Watertown; Wilson Huff, Rome; C. D. Morris, Pawling; Arthur O'Shea, New York City; W. H. Kelly, Albany; Roscoe R. Bell, Brooklyn; G. G. Dean, Tully.

INTELLIGENCE OF A HORSE.—Dr. W. H. Watkins, of New Orleans, according to the *Times-Democrat*, relates that while a student, in a class where it was customary to wear a distinguishing badge, and a number of the students being one day gathered on the campus, a horse came limping toward them. He came to a stop a dozen or more feet away, and, carefully surveying us, finally made up his mind as to what he wanted to do, and without any hesitation limped directly to my side, whinnied, stuck his nose against my body, and held up his left foreleg. Looking down, I discovered a large nail embedded in the frog of his hoof. This had evidently caused the lameness. I extracted the nail and the horse whimpered with relief and walked away. Rather curious as to why the beast had picked me out to attend to his wound, I glanced at the boys and found the solution to the problem. Not one of the group had his medical badge upon his coat but myself. The horse had recognized the insignia and acted accordingly."

MYSTERIOUS HORSE SICKNESS IN MARYLAND.—A dispatch to the New York *Sun* dated Baltimore, Md., Sept. 22, says:

"Dr. A. W. Clement, State Veterinarian, has returned from a visit to the Eastern Shore, where there is an epidemic among horses which has already caused the death of over 1000 of them. Dr. Clement says the disease threatens to become epidemic throughout the State. He said to-day: 'I am almost certain the disease is caused by horses eating some poisonous vegetable matter. This theory is supported by the fact that the disease is almost entirely confined to horses which had been allowed to roam around in pastures. The horses are suddenly affected with the disease. They refuse to eat, gradually grow weaker, and are finally stricken with paralysis, and die within forty-eight hours. Post-mortem examinations on these horses show an inflamed and congested condition of the stomach, suggestive of death by poisoning. The disease has appeared in the highlands of Hartford county, where the water is of the purest quality.'"

GRAND RAPIDS VETERINARY COLLEGE.—From the Grand Rapids (Michigan) *Herald* we learn that a new veterinary school is about to be established in that city with a two-year-course. It appears to be the outcome of the Detroit School extending its course to three years, and it is claimed that many of the Detroit students will go to this school, where they can graduate at the end of one year. The proposed faculty is as follows: Dean and professor of surgical pathology, Schuyler C. Graves, M.D.; professor of veterinary jurisprudence, Major E. C. Watkins; professor of physics, chemistry, canine practice, and veterinary medicine, Hugh Rutherford, S.D., D.M., D.V.S.; professor of bacteriology and histology, J. B. Whinery, M.D.; professor of surgery, obstetrics, and horse-shoeing, William Rose, V.S.; professor of materia medica and therapeutics, O. L. Dale, M.D.; professor of comparative physiology, E. Bigham, M.D.; professor of anatomy and dental surgery, M. Elzinga, D.V.S.; demonstrator of surgery, R. Peterson, M.D. The backers of the school are E. C. Watkins, L. L. Conkey, Geo. Hare, Hugh Rutherford and three or four others. The State of Michigan has just gotten rid of one two-term school, and here is another to perplex the cause of higher education.

HORSE STOCK OF THE COUNTRY.—According to the "Year Book" of the United States Department of Agriculture, issued a short time ago, there are 14,364,667 horses in the United States. Kentucky is credited with 400,879, valued at $13,056,621, average $32.57 per head. In Texas there are 1,160,101, worth $20,571,962, average $17.73; Iowa, 1,087,492, value $31,-

469,631, average $28.94; Illinois, 1,072,956, average value $30.90; New York, 621,343, value $49.67 each; Rhode Island, 10,129, value $75.25 each. The lowest priced horses are in Oklahoma, which has 39,099, valued at $13.40 each. In the State of Washington, where they have been reported as selling at $2 each, there are 176,691, valued at $20.45 each. There are 261,428 mules in Texas, valued at $29.85 per head; Georgia has 164,380, averaging $62.95 per head; New Jersey, 7492, valued at $76.70; New York, 4534, valued at $55.05 each; Kentucky, 116,854, at $33.95 each; Mississippi, 215,466, at $29.90 each. Total number in United States, 2,215,654, valued at $92,302,000, an average value of $41.65. In 1892 the value of horses in this country, numbering then 15,498,140, exceeded $1,000,000,000. In the succeeding five years the value decreased nearly $600,000,000, while the number fell off only about 1,000,000. In mules much the same effect is noticed.

PROGRESS OF THE HORSELESS CARRIAGE.—We received the following extract from a Rochester (N. Y.) paper from Dr. J. H. Taylor, of Henrietta, N. Y., dated Sept. 20, who says: "I witnessed the grand performance and went home more satisfied than ever with the horse, and with no fear that he would ever be driven out by this machine. There were three machines to start, but two of them would not go at all and one of the two balked several times in going less than two miles. The extract is as follows: "Horseless carriages are a decided frost, judging from those exhibited at the Western New York Fair, which closed yesterday. The fair managers had advertised the carriages as a feature and got the machines there at a great expense, and they have every reason to feel sore. Before the owners got the $500 for exhibiting their carriages, they promised to run races daily and to match their inventions against bicycles and furnish unlimited sport in other ways. When the timefor the actual test came, but one of the carriages could be made to go. That one went a mile in a few seconds less than four minutes. There was quite an argument between one disgusted manager of the fair and one of the owners of the carriages. The latter wanted to wager that he could make the machine go a mile in 2:35. The fair official offered to bet any amount of money up to the thousands that the other fellow couldn't make good his claim. The argument resulted in nothing definite, as both men only talked and didn't show any money. Outside of the horseless carriage fake, the fair was a success, both socially and financially."

AN INTELLIGENT HORSE—TOOK HIS DRUNKEN MASTER TO THE POLICE STATION.—Friday evening, about 5 o'clock, a horse attached to a buggy, in the front of which was wedged a helplessly intoxicated man, cramped between the seat and the dash-board, fast asleep, his head fallen forward, one hand dropped outside the buggy and held listlessly in a half extended position, and the other twisted behind him, walked sedately up Second Street from some point on Walnut, and, arriving in front of the police station, gave vocal expression to a desire to have some one come out and confer with him with possible reference to the unconscious occupant of the vehicle the quite intelligent animal was pulling. Sergeant Sunberg and Jailor Collins, who happened to be in the front room, had their attention attracted to the whinneying, and, looking out of the window, saw the inebriate leaning over the dash-board, marks on which suggested a recent attempt of the stomach to secede from the locality of the boot heels. The two officers gazed in fixed astonishment for an instant, when the horse, getting a glimpse of them through the open window, renewed his demonstrations, and winked knowingly, as much as to say: "Here, you fellows. Come out here and unload this drunk and relieve me of the responsibility of caring for him and myself on the crowded streets." They responded to the mute appeal, and, backing the buggy to the jail door, lifted the unconscious man out and put him in jail. The moment the horse was relieved of its helpless burden, he murmured a low chuckle of delight, and, walking into the public pound in the rear of police headquarters, ambled up to a feed trough and "hollered" for a square meal. It was afterward discovered that the horse had threaded his devious way through the maze of vehicles for six blocks on Walnut, and afterward turned north on Second, and, with rare intuition amounting to almost human intelligence, conveyed his drunken driver to the place of all others where, in his oblivious condition, he belonged. The mayor, when informed of the extraordinary incident, demanded to see the horse, and later seriously entertained an expressed intention of placing the equine on the force as a special during the fair.—(*Iowa State Register. Sept. 11.*)

BACK NUMBERS REVIEW WANTED.

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